How did you come up with the idea for this project? What was the most difficult aspect of this project? See additional exhibit requirements, above, for Robotics classes. Evaluation: Use Robotic Evaluation.

863 104 1__ __ Junk Drawer Robotics Level 1: An exhibit on any robotics topic youth learned about in Junk Drawer Robotics, Level 1, Give Robots a Hand, addressing the theme robotic arms, hands and grippers or trebuchet-type catapult design. An exhibit of two parts: (1) an exhibit made by the member and (2) a photocopy of the corresponding design and build pages from the Junk Drawer Robotics Youth Robotics Notebook.

863 104 2__ __ Junk Drawer Robotics Level 2: An exhibit on any robotics topic youth learned about in Junk Drawer Robotics, Level 2, Robots on the Move, addressing the theme moving, power transfer and locomotion. Design, build project options are the Clipmobile, Can-Can Robot, Es-Car-Go or Sea Hunt. An exhibit of two parts: (1) an exhibit made by the member and (2) a photocopy of the corresponding design and build pages from the Junk Drawer Robotics Youth Robotics Notebook.

863 104 3__ __ Junk Drawer Robotics Level 3: An exhibit on any robotics topic youth learned about in Junk Drawer Robotics, Level 3, Mechatronics, addressing the theme the connection between mechanical and electronic elements. Design, build project options are Forward and Reverse, Wall Follower Design, Breadboard, Say What? or "Build Your Robot." An exhibit of two parts: (1) an exhibit made by the member and (2) a photocopy of the corresponding design and build pages from the Junk Drawer Robotics Youth Robotics Notebook.

INDUSTRIAL ARTS
DEPARTMENT

4-H TRACTOR

In each class the exhibit shall be an educational exhibit which will show or illustrate what the member has learned. Include an explanation telling: (a) how the exhibit was made or what was done in the project; (b) operating instructions (if appropriate); and (c) what the member learned by the doing the project. **Explanations are required** to qualify the exhibit for judging.

881 100 001 Junior
881 100 002 Intermediate
881 100 003 Senior

4-H WELDING

Projects or exhibits is this class are designed for practical use, artistic purpose, or demonstration of skills. The techniques used can include Shielded Metal Arc Welding/Stick, Gas Metal Arc Welding/MIG, Gas Tungsten Arc Gas Welding/TIG, Flux-cored Arc Welding, Oxy-fuel Welding, or other metal joining techniques that require the heating of surfaces to the point of melting. . A completed "Welding Explanation Sheet" 861-01 is required to qualify the exhibit for judging. Judging criteria are outlined on 4-H Welding Criteria (861-03), available at the County Extension Offices and on the State 4-H website

861 100 001 Welding, Junior
861 100 002 Welding, Intermediate
861 100 003 Welding, Senior

4-H WOOD SCIENCE

GENERAL WOOD SCIENCE EXHIBITS

In each class, the exhibit shall be made primarily of wood by the 4-H member. Musical instruments and furniture of any kind should be entered in their specific classes. A completed "Wood Science Explanation Sheet" 871-02 is required to qualify the exhibit for judging. Judging criteria are outlined on 4-H Wood Science Exhibit Evaluation Sheet (871-01 Revised 11/2016), available at the County Extension Office and on the State 4-H website.

871 100 001 Wood Science, Junior First Year
871 100 011 Wood Science, Other Junior
871 100 002 Wood Science, Intermediate First Year
871 100 012 Wood Science, Other Intermediate
871 100 003 Wood Science, Senior First Year
871 100 013 Wood Science, Other Senior
871 100 034 Wood Science, Club

SPECIALITY WOOD SCIENCE EXHIBITS

These classes are for exhibiting musical instruments and furniture of any kind primarily made of wood by the 4-H member. A completed "Wood Science Explanation Sheet" 871-02 is required to qualify the exhibit for judging. Judging criteria are outlined on 4-H Wood Science Exhibit Evaluation Sheet (871-01 Revised 11/2016), available at the County Extension Offices and on the State 4-H website.

871 200 001 Wood Science Musical Instrument, Junior
871 200 002 Wood Science Musical Instrument, Intermediate
871 200 003 Wood Science Musical Instrument, Senior
871 300 001 Wood Science Furniture, Junior
871 300 002 Wood Science Furniture, Intermediate
871 300 003 Wood Science Furniture, Senior

NATURAL SCIENCE
DEPARTMENT

4-H AQUATIC ECOLOGY AND SPORT FISHING

AQUATIC MACRO-INVERTEBRATE SPECIMENS

1. Macro-invertebrates, regardless of developmental stage, serve as an energy source in fresh water (lakes, ponds, streams, rivers) fisheries. They include but are not limited to: eggs, larvae, nymphs, scuds, leeches, stoneflies, caddis flies, mosquitoes, dragonflies, hellgrammites, etc. Specimen photos or drawings of specimens may be displayed in a three ring binder. Photos and drawings must be the original work of the exhibitor. Preserved specimens are to be displayed in specimen jars in display boxes. Each specimen, including photos or drawings, requires a label be affixed to the display box or page for easy reading. Labels (3/4"x1 1/2") on preserved specimens, photos or drawings are to include the name of the collector, date collected/photographed/drawn, order name, common name, name of body of water from which specimen was found, county and state.