

SECTION 21 - AGRICULTURAL ENGINEERING

- Exhibitor shall have made each article during current 4-H year.
- Youth may exhibit two different exhibits per class.
- Articles exhibited may have been used prior to the fair but must be cleaned as thoroughly as possible before exhibiting.
- **All entries are eligible for State Fair selection.**

Section 21 Ag Engineering

Class 400 (A) HAND TOOL DIVISION: Any article made in the 4-H Wood Science Project that was cut out, assembled, and finished with hand tools only.

(B) POWER TOOL DIVISION: Any article made in the 4-H Wood Science Project which has been partially or totally completed with power tools (*to be eligible for State Fair, projects must be completed by youth over 11 years of age*).

(C) KIT DIVISION: Any article in the 4-H Wood Science Project that is made from pre-cut by an outside resource (i.e. 4-H office, commercial supplier or woodworking volunteer leader) but is assembled and finished by the exhibitor. Judges will place emphasis on quality of woodworking performed by exhibitor. No commercial names on exhibits.

(D) RECLAIMED LUMBER - must state origin of lumber/wood used. Project will be evaluated according to woodworking standards.

(A) RECYCLED WOOD PROJECTS – made from pre-existing items made into a new useable form (a bed headboard into a bench). The project will be evaluated according to woodworking standards.

(B) WOOD SCIENCE/SHOP WORK – OPEN CLASS: Articles made in Wood science/shop work project that does not fit in listed categories. Emphasis on quality of workmanship by Exhibitor and the intended use of the project will be judged.

401 (A) ELECTRIC DIVISION: *article made in an Electric Project*, such as a trouble lamp, test lamp, portable bench light, extension cords, pin-up or study lamp, or the rewiring of an old lamp is acceptable.

- Tension restraint device must be in place. (Where appropriate, Underwriters Knot should be used, especially in lamp sockets).
- Due to safety code compliance, molded polarized and/or prefabricated cords with polarized plugs, where applicable, are allowed.
- Lamps without bulbs or shades will not be considered complete and will be evaluated accordingly.
- Projects involving both woodworking and electrical tasks will be evaluated on the merits of both.

(B) ELECTRONICS DIVISION: Any article made in the 4-H Electric Project utilizing principles and construction procedures relating to electronics is acceptable.

- These projects will be evaluated on the basis of soldering and connection techniques, neatness of assembly, and other procedures for electronic projects.
 - All projects must be hand wired and no breadboard kits will be acceptable.
 - The project must be operable (i.e. contain all necessary batteries).
 - In addition include a short explanation of why or how the exhibit works and what use it has.
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Section 21 Ag Engineering

(A) Any 4-H Handyman or Related Engineering Science Article made as part of a 4-H project, such as (horse) saddlebags, rope halter (dairy), leather craft, cardboard carpentry, safety items, welding & sheet metal work. **NO KITS.**

(B) ANY 4-H HANDYMAN ARTICLE made from **KIT(S)**

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ENGINEERING EDUCATIONAL DISPLAYS

Displays: may be a series of posters and a 3-dimensional exhibit related to an engineering science project. Display should be self-explanatory through use of signs or labels and limited to approximately card table size. Topics may include (but not limited to) engine parts or bicycle parts display boards, electric circuit boards, electric quiz games, safety rules for bicycling or working with wood or electricity. Entry will be evaluated on the purpose or principle idea, effectiveness in illustrating idea, appearance, arrangement and description of the display.

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ROCKET PROGRAM:

(A) JR DIVISION: Any rocket in a 4-H Rocket Program either from a kit or non-kit materials and totally assembled and finished by youth age 13 and younger.

Judges will place emphasis on proper kit assembly and finishing.

(B) SR DIVISION: Any rocket made from non-kit materials and totally constructed and finished by youth 14 years/older. Emphasis placed on proper construction techniques and finished product.
