SCIENCE, ENGINEERING & TECHNOLOGY
DEPARTMENT H

☛ALL STATIC EXHIBITS MUST HAVE RECEIVED A PURPLE RIBBON AT THE COUNTY FAIR TO ADVANCE TO THE STATE FAIR.

GENERAL INFORMATION
The name and county of each exhibitor should appear separately on the back of each board, poster or article and on the front cover of the notebooks so owner of exhibit may be identified if the entry tag is separated from the exhibit.

Each individual is limited to one exhibit per class.

Several classes require a display board which should be a height of 24" and not to exceed 1/4" in thickness. A height of 23 7/8" is acceptable to allow for the saw kerf (width) if two 24 inch boards are cut from one end of a 4' X 8' sheet of plywood. Nothing should be mounted within 3/4" of the top or bottom of the board. (Example: Woodworking, Small Engines, & Electricity.)

Fabricated board such as plywood, composition board, or particle-type lumber may be used for demonstration displays.

Demonstration boards should be sanded and finished to improve their appearance. The finish on a demonstration board will be judged as a woodworking exhibit.

Demonstration boards should include an overall title for the display, plus other necessary labeling.

Reports should be written using the scientific method whenever possible (Background, the Question or hypothesis, what you plan to do and what you did, Method used and observations, Results: what you learned. All reports should be computer generated and enclosed in a clear plastic cover. The reports should be attached securely to the display.

AEROSPACE
Department H - Section 850
Premium Schedule B

Rockets must be supported substantially to protect the rocket from breakage. Rockets are to be mounted on a base that has dimensions equal or less than 12" x 12" and the base should be 3/4" thick. No metal bases. If the rocket fins extend beyond the edges of the required base (12" x 12"), then construct a base that is large enough to protect the fins. The base size is dictated by the size of the rocket fins. The rockets must be mounted vertically. Please do not attach sideboards or backdrops to the displays. In addition a used engine or length of dowel pin is to be glued and/or screwed into the board and extended up into the rockets engine mount to give added stability. Rockets must be equipped as prepared for launching, with wadding and parachute or other recovery system. Rockets entered with live engines, wrong base size or sideboards will be disqualified. A report, protected in a clear plastic cover, must include:

1) rocket specification,
2) a flight record for each launching (weather, distance, flight height),
3) number of launchings
4) flight pictures.

The flight record should describe engine used, what the rocket did in flight and recovery success. Points will not be deducted for launching, flight or recovery failures described. This includes any damage that may show on the rocket. Complete factory assembled rockets will not be accepted at the State Fair. Judging is based upon display appearance, rocket appearance, workmanship, design or capabilities for flight, and number of times launched. Three launches are required to earn the 25 launch points given on the score sheets. (Score Sheet SF 92/rev04). Only actual launches count, misfires will not count towards one of the required three launches.

For self designed rockets only, at the Nebraska State Fair, entries will need to include a digital recorded copy of one

flight. In the documentation please include a description of stability testing before the rocket was flown.
4-H Rocket project levels are not intended to correspond to National Association of Rocketry model rocket difficulty ratings or levels.

LIFT OFF – UNIT 2

*1. Rocket - Any Skill Level 2 Rocket with wooden fins painted by hand or air brush.

*2. Display - Display exemplifying one of the principles learned in the Lift Off project. Examples include: display of rocket parts and purpose, interview of someone in the aerospace field, or kite terminology. Display can be any size up to 28” by 22”.

*3. Rocket - Any Skill Level 2 Rocket with wooden fins painted using commercial application. Example: commercial spray paint.

REACHING NEW HEIGHTS - UNIT 3

*4. Rocket - Any Skill Level 3 Rocket with wooden fins painted by hand or air brush.

*5. Display - Display exemplifying one of the principles learned in the Reaching New Heights Project. Examples include: airplane instrumentation, kite flying, or radio-controlled planes. Display can be any size up to 28" by 22".

*6. Rocket - Any Skill Level 3 Rocket with wooden fins painted using commercial application. Example: commercial spray paint.

PILOT IN COMMAND - UNIT 4

*7. Rocket - Any Skill Level 4 Rocket with wooden fins or any self -designed rocket.

*8. Display - Display exemplifying one of the principles learned in the Pilot in Command Project. Examples include: flying lessons, or careers in aerospace. Display can be any size up to 28" by 22".

*20. Careers interview - Interview someone who is working in the field of aerospace and research that career. Interviews can either be written or in a multimedia format (CD/DVD). Written interviews should be in a notebook. Written reports should be 3 to 5 pages, double spaced, 12 point font, and 1” margins. Multimedia reports should be between 3 to 5 minutes in length.

ANY UNIT AEROSPACE

921. Homemade Rocket - 4-Hers should design and make rocket from mostly household items. Report must also include a list of items used to make rocket.