

AEROSPACE

PLEASE NOTE: Any changes/updates from the previous year will be *BOLDED and ITALICIZED!* Pay special attention to any projects with *BOLD, ITALICIZED WORDS* because they have changed from last year.

The 4-H aerospace program provides youth with educational information about aerospace that develops project skills (i.e., principles of flight, model rocket construction, model rocket safety) and life skills (i.e., decision-making, using science and technology, developing communication skills).

Completion, exhibition participation, and State Fair information for Aerospace			
Division/Level	Grades	Completion Activities Needed*	Maximum State Fair Entries
Level 1	Grades 3-5	7 activities*	1 rocket and 1 poster
Level 2	Grades 6-8	7 activities*	1 rocket and 1 poster
Level 3	Grades 9-12	7 activities*	1 rocket and 1 poster

*"Activities" are defined as project manual activities and/or Hendricks County 4-H Workshops related to this topic. Members must be able to prove attendance by getting a signature from 4-H Leader/Project Advisor that conducts the workshop. Activity sheets available in the Extension Office with Aerospace Project Manuals. Fair Exhibit requirements are listed below.

Remember: All posters, notebooks, and display boards **MUST** include a reference list indicating where information was obtained, giving credit to the original author, to complete the 4-H member's exhibit. This reference list should/might include web site links, people and professionals interviewed, books, magazines, etc. It is recommended this reference list be attached to the back of a poster or display board, be the last page of a notebook, or included as part of the display visible to the public. A judge is not to discredit an exhibit for the manner in which references are listed. Reference Sheets are available at the Extension Office for use. For personal safety, do not include personally identifiable information such as mailing address or phone numbers on posters/displays/exhibits.

RULES

1. Refer to the Hendricks County 4-H Policies, Entry & Exhibit Requirements.
2. Rockets may be exhibited with a base, but launch pads are not permitted. All rockets must weigh less than 3.3 pounds and considered an amateur rocket according to FAA regulations.
3. No "Ready to Fly" or E2X rockets are acceptable in the 4-H Aerospace project.
4. Complete the activities as indicated in the project manual and complete the aerospace record sheet.
5. Be sure to enroll in the project on 4-HOnline and enter exhibit information into FairEntry by designated date.
6. Remote Control aircraft or drones may be constructed from a kit or purchased ready-to-fly.
7. Documentation of the level of rocket and the size of the engine must be presented at time of judging. Examples of documentation include: rocket box, print out from computer of rocket information, instructions, etc.

EXHIBITS

Grades 3 thru 5 – choose one or more of the following to exhibit:

- Rocket of your choice, Estes Skill Level 1, 2, or comparable difficulty. Cluster engine rockets and rockets that take an engine D or above are not permitted in this level.
- Remote control aircraft or drone of your choice that is age/grade appropriate and compliant with FAA regulations, federal and state laws, and local ordinances. This exhibit choice is to include a notebook or poster including how the aircraft/drone was used and aerospace skills learned. Displaying the aircraft or drone is optional.
- Poster or display board on any topic in the manual (i.e., construct a paper airplane with a poster board explaining why you designed it the way you did).
- An action demonstration. (For complete details/rulings see 'Interactive Demonstration')

Grades 6 thru 8 – choose one or more of the following to exhibit:

- Rocket or other aerodynamic object of your choice, Estes Skill Level 2, 3 or comparable difficulty. Cluster engine rockets and rockets that take an engine E or above are not permitted in this level.
- Remote control aircraft or drone of your choice that is age/grade appropriate and compliant with FAA regulations, federal and state laws, and local ordinances. This exhibit choice is to include a notebook or poster including how the aircraft/drone was used and aerospace skills learned. Displaying the aircraft or drone is optional.
- Poster or display board on any topic in the manual (i.e., glider (page 18) with poster explaining design).
- An action demonstration (Project Interact)

Grades 9 thru 12 – choose one or more of the following to exhibit:

- Rocket of your choice, Estes Skills Level 3 or above, a box kite or other aerodynamic object of your choice which illustrates principles of flight. Rockets that take an engine G or above are not permitted in this level.
- Remote control aircraft or drone of your choice that is age/grade appropriate and compliant with FAA regulations, federal and state laws, and local ordinances. This exhibit choice is to include a notebook or poster including how the aircraft/drone was used and aerospace skills learned. Displaying the aircraft or drone is optional.
- Poster or display board on any topic in the manual (i.e., box kite (page 20) with poster explanation)
- An action demonstration (Interactive Demonstration)

Optional Aerospace / Rocketry Activity

Members are encouraged to participate in the 4-H Rocket Launch at the Hendricks County 4-H Fair. All divisions in the project may participate in this OPTIONAL activity. However, each division will use the same size engine. Multi-stage rockets may be launched using only one stage. Engines and launch pads will be provided at the Fair. Launch date, time, and location will be listed in the fair schedule. Participants are encouraged to bring a different rocket to launch other than the one being exhibited during the County Fair. i.e. previous year's rockets, practice rockets, et

