

County Fair Exhibit Ideas - Aerospace

The county fair . . . what a great time it is! Every summer, families flock to county fairs to see the latest 4-H project exhibits. Exhibiting is a fun way for you to showcase your project work. The following list of exhibit ideas is based on the latest 4-H curriculum. Use it to generate project entries for your next county fair. If you're a county fair superintendent, use this list to enhance your county fair premium book.

Stage 1: Pre-Flight

1. Edible rocket
2. Comparing birds to airplanes
3. Aerospace careers
4. Homemade space helmet
5. Completed member guide (06842)

Stage 2: Lift-Off

1. Drinking straw rocket
2. Gnome rocket
3. Paper airplane
4. Homemade map
5. Types of aircraft
6. How weather affects flying
7. Diamond kite
8. Hot-air balloon model
9. Paper helicopter
10. Airplane parts and their functions
11. Completed member guide (06843)

Stage 3: Reaching New Heights

1. Drinking straw and balloon rocket
2. Paper flight simulator
3. Feather wing glider
4. Controllable glider
5. Shuttle on a string demonstrator
6. Balloon shuttle
7. Nagasaki Hata fighter kite
8. Remote control parts and their functions
9. Helicopter parts and their functions
10. Paper hang glider
11. Completed member guide (06844)

Stage 4: Pilot in Command

1. Model rocket
2. Altitude tracker
3. How to earn a pilot's certificate
4. Navigation system
5. Flat-style box kite
6. Personal career profile
7. Completed member guide (06845)

Tips for County Fair Exhibitors



When you enter an Aerospace exhibit at the county fair, you'll be showing the public, and the judge, what you've learned in the project. Make your exhibit the best it can be. Here are some tips.

Model Airplane Exhibits

1. Overview
 - a. Model should have an overall neat appearance.
 - b. Exhibitor should show knowledge of the model's history, and how to fly and adjust the model if it is one that is designed to fly.
 - c. If model has been damaged in fly-offs, repairs should be reasonably neat.
2. Scale and detail
 - a. Model should conform to scale outline, proportion and shape.
 - b. Model should have authentic color scheme and markings (e.g., civil registration and striping or military serial numbers and squadron markings).
 - c. Model should accurately show details: struts, cowls, cylinders, pitot tubes, rigging, armaments, windshield, steps, control surface outlines, instrument panel, etc.
3. Craftsmanship
 - a. Complexity and difficulty of project, e.g., requires cutting and shaping of parts, requires built-up wings or has an original design.
 - b. Quality of construction, assembly and finish:
 - Workmanship should be done with finesse or skill.
 - Surfaces should be properly aligned, with wing and stab horizontal and fin vertical. There should be no warping.
 - Glue joints and fillets should be snug, strong and smooth. Models should be able to take handling during judging.
 - Covering should be neat with minimal wrinkling or warping, including tissue, silk, sheet balsa or synthetic materials.
 - Sanding or planing should be smooth.
 - Painting (hand or spray) and final finish should be smooth and free of blemishes, with wood grain filled with sealer and color scheme used appropriately to dress up and personalize the model.
 - c. For models requiring shaping of wings: wing should have a reasonable air foil shape rounded on the leading edge, with a high point about 25% back from the leading edge, tapering flat to the thin trailing edge. The wing should also taper gradually from the dihedral joint to the thin wing tip. Tail surfaces should also be sanded into a thin air foil.

Model Rocket Exhibits

1. Overview
 - a. Model should have an overall neat appearance, attractive in color and decoration.
 - b. Exhibitor should show knowledge of model rocketry, safety codes and launching procedures, recovery system, types of rockets, engine rating codes, etc.
 - c. If model has been damaged in rocket launches, repairs should be reasonably neat.
2. Craftsmanship
 - a. Body tube: should be smooth and free of dents and nicks.
 - b. Alignment: fins should be spaced equally on body tube, perpendicular to the body tube and set on proper edge. Edges should be rounded if made of balsa.
 - c. Launch lug and guide: should be parallel to body tube and fastened securely.
 - d. Engine mount: should be in place and snug. Engine holder tube should be properly installed. Engine hook should be in place so engine cannot move forward. Engine must be mounted so that it does not move when ejection charge goes off but not so tight that it is difficult to remove.
 - e. Recovery system: should be operative and properly installed. Shock cord should be in place, firmly and smoothly attached, either tube method or inside mount. Nose cone should not fit too tight or too loosely so it can eject freely. Parachute, streamer, tumbler or glider should be properly attached, if used.
 - f. Finish: fillets should be smooth and uniform, with edges sanded and finished as instructed. Balsa wood should be sanded and sealed to give a smooth paint job. Paint should be evenly applied with no runs. Decals should be on straight.