

Scouts to the Skies Cub-A-Rama & Camporee

Station Descriptions

Except for the Merit Badge Station #22, all these stations will be open to both Cub and Boy Scouts - Tigers to Eagles. Scouts who visit at least eight stations will earn a set of pilot's wings!

Station POC's will provide all materials and coordinate other volunteers as needed to run their station. Tables, chairs and access to electrical outlets will be provided. Unless noted, all stations will be located indoors, inside Hanger One.

Station 1: Lakehurst History Hike (outdoors)

Station POC:

Objective: To promote physical fitness and orienteering skills through the introduction of the history of the Navy Lakehurst

Procedure: Each group will get a topographical map of the eastern portion of the base. Various points of interest will be shown on the map connected by lines to form an orienteering trail. Another handout will provide a brief description and history for each point of interest. Some suggested points of interest are: the Hindenburg memorial, the F-14 Tomcat static display, Hangers 5 & 6, Hanger 1, Camp Kendrick site, Vietnam era aircraft static display. Hike should be limited to two miles.

Rules: Participants must stay on the course and use the most direct route to the next point. Each Scout in the group must be given an opportunity to practice orienteering skills. Participants may not wander into off-limit areas.

Scoring: NA

Materials: Topographical Map showing eastern end of Lakehurst Naval Base (to be provided), handout of points of interest history and compass.

Station 2: In-flight Communications

Station POC:

Objective: To promote communication skills through the introduction of the methods and equipment of in-flight communication and the use of the Phonetic Alphabet and the language used by aviators in air traffic control.

Procedure: Provide a display and demonstration of communications equipment used on aircraft. Provide an introduction to the Phonetic Alphabet: A=Alpha, B=Bravo, C=Charlie, etc. Show and play tapes of examples of pilot-to-tower communications. Have participants role-play communication using scripts provided. Use props and involve other scouts in the group during role play: "pilot" wears pilot's cap, "tower" wears binoculars, other boys form "tower", etc.

Rules: Participants must stay on script and perform a successful "takeoff" or "landing".

Scoring: NA

Materials: Large chart showing phonetic alphabet, scripts, props, microphones/sound system, aircraft radio display, live radio broadcasting chatter, taped examples of pilot-to-tower communications.

Station 3: Gyroscope Fun

Station POC:

Objective: To promote mental fitness through the introduction of the dynamic properties of a gyroscope and its application to avionics.

Procedure: Demonstrate the dynamic properties of a gyroscope. Explain the use of a gyroscope as a means of guidance in aviation. Have participants experience the forces on a gyroscope first hand by manipulating one while seated on a spin-stool.

Rules: Each Scout must change spinning direction on the stool by using gyroscopic forces only. Other boys in the group must help by “spinning up” the gyroscope for the boy in the stool. Boys must share time on the stool by using a given time limit.

Materials: “gyroscopes” consisting of a surplus bicycle wheels fitted with handles and plastic spoke guards, spin-stools, means of spinning up gyro wheel (stationary exercise bike with flywheel?) possible model or actual aircraft gyro?

Station 4: Human Wind Tunnel

Station POC:

Objective: Demonstrate the principles of aerodynamic lift and drag on an aircraft wing

Procedure: Each participant is invited to stand on a scale while holding onto a Styrofoam airfoil, while large fans provide wind. Participants will be able to manipulate the wing in the wind in order to generate lift as evidenced by the decrease in weight on the scale. Potential site of wind tunnel is the hallway near CLASSES in Hanger 1.

Rules: Participants must wear safety goggles at all times. Area must be kept free of any objects that may be picked up by fans and blown into participants. An off-limits area must be established around wind generating fans and safety guards must be installed to prevent injury from fan blades. Airfoils must be made of light, low impact material such as Styrofoam and correctly sized for each participant.

Materials: Large safety guarded fans for wind generation, airfoils, bathroom scales, safety goggles, and safety rope/tape.

Station 5: Aircraft Model Display

Station POC:

Objective: To promote the skill of modeling aircraft

Procedure: Each participant will provide a model of an aircraft constructed at home or with the Troop. Models will be judged and prizes will be awarded according to category and skill level. All participants will be awarded aircraft wings to pin on their camporee patch.

Rules: All models must be the work of scouts with the help of family members or Unit Leaders. Each model will be judged based on craftsmanship, presentation, creativity and scout spirit.

Materials: Tables to display models, safety rope/tape to limit spectator access to models, labels for participant’s name and unit number.

Station 6: Computer Flight Simulation

Station POC:

Objective: To experience flying an aircraft using a computer simulation. Aviation Merit Badge requirement 3f.

Procedure: Each participant will be given a flight plan and run the simulated takeoff and landing using the simulation. Participants may have to take lessons on the simulator to acquire the needed skills.

Rules: Computers should only be used to run the simulation and not for any other application. Time spent on each PC by each participant should be monitored.

Materials: Computers, Flight Simulation Software, joystick with throttle control.

Station 7: Flying Model Contest (indoors and outdoors)

Station POC:

Objective: To introduce basic principles of flight and to promote the modeling of flying aircraft.

Procedure: Each participant will provide a model of a flying aircraft constructed at home or with the Troop. Models will be judged and prizes will be awarded according to category and skill level for duration and length of flight. All participants will be awarded aircraft wings to pin on their camporee patch.

Rules: To be determined by station POC.

Materials: As required to ensure a safe and fair competition.

Station 8: Paper Airplanes

Station POC: David Yasko, Pack 79

Objective: To introduce the basic principles of flight

Procedure: Each participant will fold and fly a paper airplane. There will be different plane designs for different age groups. Participants will be instructed on how to adjust the plane for optimum flight. Participants can compete for furthest thrown or longest time in the air.

Rules: Participants will be asked to keep track of their planes and not make litter.

Materials: Paper, tape, paper plane designs, paper clips, etc.

Station 9: "Wright" Relay

Station POC:

Objective: To introduce Scouts to the scientific principles involved in flight.

Procedure: Give scouts a brief introduction into the principles of flight: thrust, weight, lift and drag. Show which parts of an airplane control the pitch, roll and yaw. Have a relay race between two groups with the object of constructing a "plane" with all the necessary parts: engine, wings, elevators, landing gear, ailerons, etc. These parts can be drawn and cut out of stiff paper or cardboard. Scouts must run to the other end of the station to retrieve a particular part based on their function, for example, "get a part that creates lift". The Scout must then run to the other end of the station and pick wing card and bring it back.

Rules: Competing groups must be well matched; participants must follow rules of fair play.

Materials: Paper cutouts of airplane parts, cones to mark ends of relay course, diagram of airplane showing directions of thrust, weight, lift and drag.

Station 10: Weather

Station POC:

Objective: To introduce Scouts to the science of Meteorology

Procedure: Give scouts a brief introduction into the science of weather prediction and the instruments used. Participants will be shown the efforts taken to reduce the hazards of flying in bad weather.

Rules: NA

Materials: As required to meet the objective

Station 11: Interview a Pilot

Station POC: Mike Cunniff

Objective: Scouts can meet and talk to an actual Pilot and learn about the role of pilots in aviation. Aviation merit badge requirement 3a.

Procedure: Groups of scouts can meet with Pilot or Pilots and discuss the profession. Pilots should bring visual aids or audio-visuals to help in the discussion.

Rules: NA

Materials: VCR, TV Monitor, Flight Videos, Visual Flight Aids

Station 12: Flight Attendant School

Station POC:

Objective: To introduce Scouts to FAA passenger rules and regulations and the reasons behind them.

Procedure: Set up a mock passenger compartment with scouts role-playing as passengers. Have professional Flight Attendant show rules and procedures and what to do in emergency and other situations.

Rules: TBD

Materials: Chairs, passenger compartment props

Station 13: Aircraft Mechanic Demonstration

Station POC: Mike Cunniff

Objective: Introduce Scouts to aircraft maintenance and the mechanic's profession

Procedure: Show Scouts a model of an aircraft component, such as an engine. Display the disassembled parts of an actual aircraft component. Have Scouts perform a partial assembly or disassembly of an aircraft component.

Rules: Displays and activities must occur within a safe environment with all hazards addressed and minimized.

Materials: As required to meet objective

Station 14: Home Builders Hanger

Station POC:

Objective: To showcase the art of building aircraft at home.

Procedure: Display home-built aircraft components in different stages of construction. Show a video of the process of building an aircraft at home. Show plans and diagrams used in construction.

Rules: Displays and activities must occur within a safe environment with all hazards addressed and minimized.

Materials: As required to meet objective

Station 15: Control Line Model Aircraft Flight Demonstration (outdoors)

Station POC:

Objective: To introduce Scouts to CL Aircraft modeling

Procedure: To be determined by the Washington's Crossing Remote Control Flying Club

Rules: In accordance with the Academy of Model Aeronautics (AMA) official safety code.

Materials: As required to safely demonstrate CL gas powered aircraft models

Station 16: Climbing Wall

Station POC: US Army Recruitment

Objective: To promote physical fitness through rock climbing

Procedure: As proscribed by climbing instructors

Rules: Climbing will be in accordance with BSA Climb-on Safely rules and the Guide to Safe Scouting. A certified climbing instructor, over 21 years of age and a Scouter with Climb on Safety training must be present when scouts are climbing.

Materials: Rock climbing wall, ropes, and safety equipment

Station 17: History of Lakehurst

Station POC: Don Adams - Navy Lakehurst Historical Society

Objective: To introduce Scouts to the history of Lakehurst and the lighter-than-air era

Procedure: Provide display of Lakehurst's lighter-than-air history including pictures and artifacts.

Rules: NA

Materials: As required to meet objective

Station 18: Static Aircraft Display (outdoors)

Station POC: Mike Cunniff

Objective: To give a display of military aircraft

Procedure: Allow participants to view display of aircraft and answer any questions they have about each. Allow access to interior and cockpit of aircraft if possible.

Rules: As proscribed by the station POC

Materials: As required to meet objective

Station 19: Lakehurst and the Environment

Station POC: John Joyce, NAES Wildlife Manager

Objective: To showcase the US Navy's environmental preservation efforts at Lakehurst.

Procedure: Provide a display of Lakehurst's environmental efforts including: bluebird houses, upland sandpiper nest sites, etc.

Rules: NA

Materials: As required to meet objective

Station 20: Tour of Aircraft Carrier Mockup

Station POC: NATTC Navy personnel

Objective: To introduce participants to the inner workings of an US aircraft carrier and it's launch and recovery equipment.

Procedure: Form tour groups at entrance to CLASSES. Establish tour route through the lower and upper decks, which highlights the various ALRE equipment. Tour guides should have some knowledge of ALRE equipment.

Rules: NA

Materials: As required to meet objective

Station 21: Wright Brothers History Display

Station POC:

Objective: To introduce participants to the history of the Wright Brothers.

Procedure: Provide a hand-on display of Wright Brother's history, focusing on their achievements with powered flight.

Rules: NA

Materials: As required to meet objective

Station 22: Aviation Merit Badge

Station POC:

Objective: To earn the Aviation Merit Badge during the camporee.

Procedure: Participants need to follow the procedure as outlined on the Information Sheet for Earning the Aviation Merit Badge at this Camporee. This document will be posted on this events web page.

Rules: As outlined in the merit badge booklet and the counselor.

Materials: As required to meet objective

Station 23: Indoor flight demonstration

Station POC:

Objective: To introduce participants to the fun and excitement of indoor modeling

Procedure: Provide a display table with various indoor models. Have someone at the table to talk about indoor modeling and answer questions. Demonstrate the flying of indoor models within Hanger 1.

Rules: NA

Materials: As required to meet objective

Station 24: R/C Basics, Simulator, and flight tryout

Station POC:

Objective: To introduce participants to the fun and excitement of flying a remote controlled aircraft model

Procedure: Provide an area where participants can learn the basics of flying R/C models, fly a R/C model simulator and actually fly a R/C model with an instructor using a “buddy box”.

Rules: As proscribed by the station POC

Materials: As required to meet objective

Station 25: Aircraft Factory

Station POC:

Objective: To introduce participants to the fun and excitement of building their own aircraft models

Procedure: Provide an area where participants can build aircraft models. Provide the materials and tools needed to make the models. Cub Scouts can build a “Hovercraft” or a “Whirligig”. Boy Scouts can build the more challenging and time consuming Rise Off Ground model (ROG). Provide area where Cub Scouts can “fly” their hovercraft and the whirligigs. Provide an area where Boy Scouts can fly their ROG models.

Rules: NA

Materials: As required to meet objective

Station 26: Model Rocket Launching Station (outdoors)

Station POC: Aaron Mitchko

Objective: To introduce participants to the fun and excitement of flying their own model rockets. This activity will satisfy requirement 3 for the Space Exploration Merit Badge.

Procedure: Provide an area where participants can launch model rockets. Launch some demonstration rockets. Maintain a safe launch and recovery area.

Rules: National Association of Rocketry Model Rocket Safety Code

Materials: Launch pads, demonstration rockets, engines, recovery wadding.

Station 27: Aircraft Engine Display

Station POC: Mike Cunniff

Objective: To display aircraft engines: jet and piston types.

Procedure: Provide a display of jet and piston engines. Allow participants to view these engines and answer any questions they may have. Provide graphics of engine specifications and design if possible.

Rules: As determined by the station POC

Materials: As required to meet objective

Station 28: Balsa Flyers: Glider or Rubber Band Powered

Station POC:

Objective: To have fun with building and flying balsa gliders and rubber band powered models. Participants will be introduced to the basic aerodynamics of balsa aircraft and the adjustments necessary to achieve level flight. Participants may compete for the furthest or longest time flown.

Procedure: Participants may purchase balsa gliders at the station or at the trading post. The participants will assemble balsa flyers and instruction will be provided on how to adjust the control surfaces. Participants will be shown a display explaining the basic aerodynamics of the balsa flyer.

Rules: As determined by the station POC.

Materials: As required to meet objective