

**New York Wing Conference**  
**Aerospace**  
**Education Display/Fair**



Standard Operating Procedure  
For  
Guidelines and Information

# New York Wing Aerospace Education Display/Fair Guidelines and Information

## SUMMARY

The New York Wing (NYW) Conference Aerospace Education Display/Fair is an opportunity for Civil Air Patrol (CAP) members to share their knowledge of aerospace with others.

Participants present a topic of aerospace that they may have a special interest in exploring. Topics may include history, notable people, aircraft, space craft, flight procedures, CAP areas of interest, air carriers, general aviation, airports, weather, propulsion, aerodynamics, events aerospace companies, careers, future trends, etc.

After conducting research on the topic area of choice, teams prepare a tri-fold background that summarizes the topic. Models, examples or artifacts can be displayed in front of the tri-board.

Team/presenters then give a brief 10 to 15 minute talk about their topic. Since the program event generally lasts about two hours, teams may give their presentation several times.

Awards are given for the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place winners. Each individual receives a Certificate of Recognition with the Overall 1<sup>st</sup> Place Winner qualifying for the wing's traveling trophy.

## GOAL

The Wing Aerospace Education Display/Fair (AED/F) is a key element of the Annual New York Wing Conference. The **GOAL** is to design a project to give Civil Air Patrol (CAP) cadets and senior members a forum to demonstrate and improve their knowledge of aerospace through topic research, development of a project display and presentation of a selected topic.

Cadets who have entered their school's Social Studies Fair or Science Fair may notice a similarity with the NYW AED/F. The AED/F has many of the same elements. The primary difference is that original research (such as conducting surveys, interviews, experiments, etc.) is not required unless it is specifically part of the project. Think more in terms of writing a research paper and then defending it by presenting the information to an audience.

## GUIDELINES

Adhere to the following simple rules:

(1.) Displays are limited to 38 inches in depth, 48 inches in width and 60 inches in height.

(2.) Projects will be judged by categories:

- a. **Category I** is for cadets in grades six through eight.
- b. **Category II** is for cadets in grades nine through 10.
- c. **Category III** is for cadets in grades 11 through 12.
- d. **Category IV** is for CAP Senior Members.

(3.) Projects are entered as teams representing each New York Wing. Group and may be entered by teams of up to three. The names of all presenters must be on the entry form (see Attachment A.) Team projects will be judged in the category corresponding to the highest grade/age level represented by the members of group. For example, if one presenter is in 11<sup>th</sup> grade and the other presenters are in seventh grade, the project will be entered in **Category III**.

(4.) The AED/F will last approximately two hours with the team given 10 to 15 minutes to make their presentations. After they have finished, the team will repeat the presentation for the next audience.

(5.) Judges will come by each display; evaluate it and the team presentation.

(6.) While adult guidance and mentoring is strongly encouraged, cadets should do the research and construction of the display on their own.

(7.) Project components should meet all criteria shown on the judge's score sheet (Attachment B.).

(8.) Presenters are responsible for setting up the project for display and must remove it at the required time.

### **AWARDS**

Certificates of Recognition (Attachment C.) will be given for the 1<sup>st</sup> Place, 2<sup>nd</sup> Place and 3<sup>rd</sup> Places in Categories I-IV. The Overall 1<sup>st</sup> Place winner also qualifies for presentation of the Dr. (Lt. Col.) Ruth Nichols, CAP, Memorial Award, a traveling trophy (Attachment D.).

### **TIMELINE**

1 January – Select Topic.

15 January – Seek unit commander approval.

20 January – Start research.

15 February – Continue research.

1 March – Registration forms due to Wing DAE

15 March – Start constructing displays.

31 March – Continue construction.

15 April – Demonstrate project to unit and group commanders.

May – Aerospace Education Display/Fair at Wing Conference

## Aerospace Education Topic Suggestions

The following is a list of potential topics for the aerospace education fair. You may select one of the topics below or chose one of your own. Also see *The Aerospace Curriculum* published by NHQ CAP Aerospace Education Division.

### Flight/Flight Operations

Aircraft Systems	Airport	Aircraft Instruments
Airspace	DUATS	Emergency Procedures
Engines	FAA Regulations	Flight Maneuvers
High Altitude Physiology	High Altitude Aerodynamics	Piston Engines
Jet Engines	Night Flying	Theory

### Aircraft/Spacecraft

Airbus A340	DC-3	Explorer
Beachcraft Bonaza	DC-9	Vanguard
Beachcraft T-34	Cessna 150/152	Mercury
Beachcraft King Air	Cessna 172/T-41	Gemini
Bell X-1/X-2	Cessna 182	Apollo
Bell P-59	Cessna A/T-37	Dyna-Soar
Boeing 247	Gippsland GA-8	X-15
Boeing B-10	Horton Ho 229	Space Shuttle
Boeing B-17/Boeing 307	Messerschmitt 163	Hubble Telescope
Boeing B-29	Messerschmitt 262	Voyager
Boeing 707/KC-135	North American XB-70	X-Aircraft
Boeing 727	North American P-51	Mars Rover
Boeing 737	F-16	International Space Station
Boeing 747	F/P-80/T-33	Orien
B-1B Lancer	Lockheed P-38	Satellites

### People in Aviation and Space

Juan Trippe	John Glenn	John Travolta
Howard Hughes	Sally Ride	Dick Rutan
Wright Brothers	Charles Lindburgh	Chesley Sulenburger
Amelia Earhart	Jimmy Doolittle	Henry H. Arnold
Chuck Yeager	Neil Armstrong	Frank Borman
Glenn Curtiss	Warner von Braun	Horton Brothers
Tuskegee Airmen	WASP	Frank Whittle

### Aerospace Careers

Pilot	Flight Attendant	Mechanic
Air Traffic Control	Avionics Repair	Aerospace Engineer
Astronaut	Teacher	

## **Aviation Institutions, Agencies and Organizations**

FAA	USAF	Army Aviation
Naval Aviation	Marine Corps Aviation	Air & Space Museum
Blue Angels	Thunderbirds	Snowbirds
EAA	FSS	NASA
AOPA	NTSB	Space Camp
AMARC (Aerospace Maintenance and Regeneration Center)		

## **Aviation Companies**

Pan Am	Eastern Airlines	TWA
BOAC	Aeroflot	General Dynamics
Curtiss Aviation	Northrop	Consolidated
Boeing	Cessna	Piper

## **Events**

Aviation in World War I	Aviation in World War II	Aviation in Vietnam
Aviation in the Korean War	Alaskan Aviation	Berlin Airlift
Strategic Bombing	Flying Tigers	Disaster Relief
EAA Airshows	Pancake Breakfasts	

Attachment A.

## NYW Aerospace Education Display/Fair Entry Form

(All information must be typed or neatly printed)

Group: \_\_\_\_\_

Rank/Name(s):

(1.) \_\_\_\_\_  
School Grade or Senior Member 6 7 8 9 10 11 12 SM

(2.) \_\_\_\_\_  
School Grade or Senior Member 6 7 8 9 10 11 12 SM

(3.) \_\_\_\_\_  
School Grade or Senior Member 6 7 8 9 10 11 12 SM

Title of Project: \_\_\_\_\_

Contact information:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone/E-mail: \_\_\_\_\_

# Aerospace Education Fair

## Judges' Score Sheet

Name \_\_\_\_\_

Rank \_\_\_\_\_

Title of Exhibit: \_\_\_\_\_

Cadets: Category I (Grades 6-8)

Category II (Grades 9-10)

Category III (Grades 11-12)

Senior Members: Category IV

<b>Visual Display (34 points)</b>	0	2	3	4	5	6
Display clearly communicates the nature of the subject						
Display explains what the presenter has learned about the topic						
Display shows creativity/originality						
Conscientiousness of workmanship as manifested by accuracy, neatness, and craftsmanship						
Has a pleasing visual/sensory effect. Display size within size specifications						
Tables, graphs, and/or illustrations are used effectively						
Display of references (minimum of five sources)						
Correct grammar						
Correct spelling						
Correct punctuation						

Section Total 

<b>Methodology (48 points)</b>	0	2	4	6	8	10	12
In-depth investigation of adequate and reliable resources							
Sufficient information upon which to base conclusions							
Relevance (all information related to the project topic)							
Evidence of interpretation and analysis of information related to the topic							

Section Total 

<b>Oral Presentation (18 Points)</b>	0	2	4	6	8	12
Knowledge of the content						
Confidence, poise, and projection						

Section Total Grand Total 

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**CIVIL AIR PATROL**  
**UNITED STATES AIR FORCE AUXILIARY**



**CERTIFICATE OF RECOGNITION**

*Awarded To:*

**FIRST & LAST NAME**

(1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>d</sup> Place)

*For excellence in demonstration at the Annual New York Wing  
Aerospace Education Display/Fair.*

Given this \_\_\_\_\_,



\_\_\_\_\_  
Commander

Attachment D

### **The Dr. (Lt. Col.) Ruth Nichols, CAP, Memorial Award**



**The Lt. Col. Ruth Nichols, CAP, Memorial Award is a traveling wing trophy that consists of a stainless steel model of the Italian Macchi M.39 that one the 1926 Schneider Cup race at Hampton Roads, Virginia and set a land speed record of 246.9 miles an hour.**

#### **Lt. Col. Ruth Nichols, CAP**

Known for more than 35 women's aviation records

Ruth Nichols was born in New York City. Her father had been one of Teddy Roosevelt's Rough Riders, and her mother was a strict Quaker.

For her high school graduation, her father presented Ruth Nichols with an opportunity to ride in a plane with Eddie Stinson, ace pilot of World War I. She began secretly studying to fly even as she studied at Wellesley College, planning for a career as a physician. Shortly after her

graduation from Wellesley, Ruth Nichols became the first woman in the world to earn an international hydroplane license. In 1927, she was one of the first two women to receive a Department of Commerce transport license.

Joining Harry Rogers for a flight from New York to Miami in 1927 on New Year's Eve led to public recognition for Ruth Nichols. Fairchild Airplane and Engine Company offered her a sales position, and she tried a number of ventures connected with sports flying.

With the Depression, Ruth Nichols turned to competitive flying, and in 1930 went to work for Crescent Aircraft where the company would allow her to spend most of her time in competitions. She began to make a name for herself as an aviatrix.

In 1931, Ruth Nichols broke three major women's records: altitude, speed and distance. Although she failed in her attempt to cross the Atlantic, injuring her back, and even saw her plane go up in flames the day after breaking the women's distance record with her flight from Oakland, California, to Louisville, Kentucky, Nichols worked to raise funds to replace her plane. In 1932 she also was part of the "good will tour" promoting the International Congress of Women in Chicago for 1933.

Her dream of being the first woman to fly across the Atlantic was shattered when Amelia Earhart achieved that feat in May, 1932. (Years later, she'd join Earhart in founding the Ninety-Nines, an organization promoting women pilots.) Ruth Nichols tried a flight from New York to Los Angeles for another record, but her planned record-breaking flight failed again due to plane failure. She did, however, achieve more notoriety with that flight by using it to drop campaign literature for Herbert Hoover.

Continuing to lecture and to raise funds, as well as to fly as often as possible, in 1935 Ruth Nichols was badly injured in a flaming crash during an emergency landing of a transport plane in Troy, New York.

After this, Ruth Nichols worked to apply her aviation skills to humanitarian projects. In 1939, she founded the Relief Wings, a civilian air ambulance service, and by the fall of 1941 had established centers in most states. This project was absorbed into the official Civil Air Patrol when the US entered the war in December 1941.

Ruth Nichols worked as a nurse and flight instructor during the war, and in 1948 piloted a world tour for UNICEF. Nichols continued to set new records, in 1958 setting women's speed and altitude records. In 1960, she was found in her New York apartment.