



## **K-12 Educational Resources – Annotated List of Web Resources**

This list was prepared by the SAFE K-12 Resource Group and consists of online resources available to K-12 Educators to interest and excite students about all phases of aviation. The list was accurate at the time of preparation and all sites were reviewed for the information they contained. Comments are welcome, as well as suggestion of other online resources that might be of benefit to K-12 Educators. K-12 Educators are encouraged to consider membership in SAFE (Society of Aviation & Flight Educators) which provides access to the SAFE Member Resource Center for additional resources, and also to contribute to the Member Created Resources section items that would assist other K-12 Educators. The Member Created Resource section is a juried online journal and one is “published” once material appears in that section. For further details, click on the “Contribute” button at the beginning of the SAFE Member Resource Center.

[http://www.gocivilairpatrol.com/cap\\_home/educators/](http://www.gocivilairpatrol.com/cap_home/educators/)

With membership as a CAP Aerospace Education Member (AEM) for \$35/year, gain access to classroom and resource materials; resources include free national standards-based aerospace education materials, awards for schools that adopt an aerospace program into their curricula; grants from the Air Force Association to incorporate aerospace into the classroom; low-cost aerospace textbooks for Grades 6-12; aerospace education newsletters; orientation flights in powered aircraft; summer workshops; aerospace education speakers.

[www.NASAO.org](http://www.NASAO.org)

The National Association of State Aviation Official's Center for Aviation Research and Education is a major participant in the International Aviation Art Contest for children. NASAO recognizes efforts of state aviation agencies to make aviation education resources available to students of all ages as well as the community-at-large.

<http://www.nasao.org/About/Awards/NASAOCenterAviationEducationProgramAward.aspx>

Provides an award open to any state aviation agency that has developed or has contracted for the development of an original aviation education program.

[www.aea.net/careers](http://www.aea.net/careers)

The Aircraft Electronics Association (AEA) offers training and professional development programs for its members featuring the latest regulatory, technical and business management topics at world-wide regional meetings and a national convention; members have access to training online, in print, and in the classroom. The AEA Education Foundation awards scholarships ranging from \$1,000 to over \$35,000 to students seeking careers in the aircraft electronics and aviation maintenance industry.



[www.ncatt.org](http://www.ncatt.org)

National Center for Aerospace & Transportation Technologies' mission is to provide a forum through which subject matter experts from industry, government, and education develop technical knowledge and skill standards. The organization has an Accreditation and Recognition program for educational and training providers meeting NCATT standards.

[www.online.onetcenter.org](http://www.online.onetcenter.org)

Occupational Information Network (O\*NET) program provides comprehensive occupational descriptions and data for use by job seekers, workforce development offices, human resources professionals, students, researchers, and others.

[www.nasa.gov/offices/education/programs/descriptions/Aerospace Education Services Project.html](http://www.nasa.gov/offices/education/programs/descriptions/Aerospace_Education_Services_Project.html)

The AESP specialists share NASA's use of emerging instructional technologies and the motivating outcomes of NASA's research, exploration and discovery with education communities and the public. The primary focus of AESP is a professional development effort that serves the K-12 education community by providing in-service training for educators, classroom lesson modeling, distance learning events, pre-service training for university students, and identification of appropriate NASA education resources.

NEON: NASA Educator's Online Network. Through NEON, educators can find resources, speak with other educators and meet NASA scientists and engineers.

<http://neon.psu.edu>

NEON is a professional learning community open to K-12 teachers, STEM coordinators, future teachers, other educators, scientists, engineers, and professionals who want to support STEM teachers in their important work. The purpose of NEON is to help K-12 teachers and STEM professionals find each other based on areas of expertise, interest and needs, develop effective collaborations, learn from and support each other, and find teaching, learning, and professional development resources.

[www.redtail.org](http://www.redtail.org)

"Take Off for Fun," an educational resource for classroom teachers; presents inspirational DVD, posters, and historic interviews regarding the Legendary Tuskegee Airmen; folder of classroom activities may be ordered for \$45 plus \$12 shipping.

[www.bls.gov](http://www.bls.gov)

*Occupational Outlook Handbook* forecasts the outlook for all types of occupations including Airline and Commercial Pilots; the handbook shows the median salary, describes current working conditions, explains educational or training requirements, number of jobs now and in the future; an excellent tool for career planning purposes; website also includes other databases and labor statistics.



[www.ssa.org](http://www.ssa.org)

Official website of the Soaring Society of America; explains what soaring and sailplane racing are; no educator resources per se, but some nice photos of sailplanes.

[www.faa.gov/education](http://www.faa.gov/education)

Free aviation education curriculum and career information for K-12 provided by the Federal Aviation Administration (FAA); resources include fun classroom activities and experiments as well as an exciting new approach to teaching distance-rate-time problems with an air traffic simulator for Grades 5-9.

[www.natca.org](http://www.natca.org)

Official website of the National Air Traffic Controllers Association; "The Kids Corner" provides classroom career resources in the form of posters, coloring books, photos, air traffic control simulator, and other multimedia presentations.

[www.FAASTeamYouth.org](http://www.FAASTeamYouth.org)

Website provides links to a number of youth organizations that promote aviation education activities such as Boy Scouts, Civil Air Patrol, Girls With Wings, FAA ACE Academy, EAA Young Eagles, and Youth Aviation Adventure.

[www.realworlddesignchallenge.org](http://www.realworlddesignchallenge.org)

A design competition for High School students. Students work on a real world aerospace problem; EVERY teacher is provided with \$1,000,000 worth of engineering software and industry advisers. Students compete on state level and winners compete on national level. Past winners have all met the President!

[www.dreamflightusa.com](http://www.dreamflightusa.com)

Wisconsin based 501.3c Mobile classroom to motivate middle school students via (primarily) space, aviation and science learning. Lesson plan can be purchased for a semester length program culminating with a visit by the mobile classroom, or school can just have the mobile classroom come for a one day program. Program seems to only operate in Wisconsin.

[www.goang.com](http://www.goang.com)

This is the Air National Guard (ANG) website. The website gives information about careers in the ANG. There is nothing on this website that is of any real use to our members, i.e. no curricula or Syllabi for training or education, but is good for job related information in the ANG.



[www.nps.gov/webrangers](http://www.nps.gov/webrangers)

National Park Service website: Geared towards lower and middle school students. There is very little on this site that is relevant to our members; certain modules that discuss the atmosphere, but not really a good resource

[www.aeroinnovate.org](http://www.aeroinnovate.org)

A website for small companies trying to bring new innovations in aviation to market. They have no educational material at all on their website

[www.vexrobotics.com](http://www.vexrobotics.com) Website offers curricula to middle and high school students for a robotics program. The robot kits are purchased through the site. The curricula are NOT aviation or aerospace based.

[www.noaa.gov](http://www.noaa.gov)

National Oceanic & Atmospheric Administration provides free science resources for students and teachers on topics such as meteorology, forecasting of space weather and related solar events, migration patterns of marine species, teacher training workshops, and information on student scholarships, internships, and fellowships.

[www.aviationeducation.org](http://www.aviationeducation.org)

Website maintained by the National Coalition for Aviation & Space Education; this consortium represents government and industry in an united mission to promote aviation education; website provides information on teaching resources, scholarships and awards, aviation camps, and educator workshops.

[www.flytolearn.com](http://www.flytolearn.com)

Website promotes S.T.E.M. education through aviation for students of all ages; explains new software for classroom use that allows students to design, build, and fly virtual airplanes for less than a few dollars per student annually.

[www.aopa.org/path](http://www.aopa.org/path)

Wealth of information provided to secondary teachers by the Aircraft Owners & Pilots Association (AOPA); free publication titled *PATH to Aviation* brings basic aviation topics into the classroom in 11 easy-to-follow modules; modules highlight common questions people often ask about general aviation and the modules tie the activities to secondary school topics; teacher and student worksheets are provided.



<http://www.aopa.org/path/path.html>

AOPA's "PATH to Aviation" contains eleven (11) modules (lesson plus activity) that relate flying and basic aviation to subjects like math, history, English, and physics and other sciences. All materials can be photocopied and adjusted to age appropriate lessons. Recommended grades: elementary to high school. Beginning pilot and career information are also available.

[www.eaa.org](http://www.eaa.org) AND [www.young eagles.org](http://www.young eagles.org)

The Young Eagles program provides airplane rides for students aged 8 to 17 from EAA members. The website contains "News & Events", Career information, on-line games, and a list of resources for young pilots.

<http://www.wingsmuseum.org/educate/wings-aerospace-science-program-wasp>

The Wings Over the Rockies Museum sponsors the WASP which is a collection of eight hands-on inquiry-based lessons which use aviation to inspire students to higher achievement. The museum in Denver, Colorado sponsors school programs, summer camp, scouts programs, Kidspace, and a speakers' bureau.

[www.sharemylesson.com](http://www.sharemylesson.com)

This is a living and growing website that offers lessons in all subject areas as well as all grade levels (K-12). Registration is free but I was not able to locate any aviation specific lessons at this point in time. Maybe later there will be.

[www.aviationeducators.org](http://www.aviationeducators.org)

The website for the National Coalition of Aviation and Space Educators (NCASE) is designed as a resource center for its members. There are sections on careers and scholarships, NCASE member descriptions and contact information as well as a Teaching Resources area for activity ideas. This section was not accessible to non-members.

<http://rotored.arc.nasa.gov/>

Website is actually an online, interactive book about Robin Whirlybird's visit to the NASA Rotorcraft Research Center, where her mother works; book is correlated to the National Education Standards for Science K-4 level; a fun and engaging website.

[www.nasa.gov/audience/for kids/kidsclub/flash/index.html](http://www.nasa.gov/audience/for kids/kidsclub/flash/index.html)

Aviation fun and information for kids, parents, and teachers.

[www.grc.nasa.gov/WWW/K-12/airplane/bga.html](http://www.grc.nasa.gov/WWW/K-12/airplane/bga.html)

Serves as a beginner's guide to aerodynamics; includes a self-paced study course; website contains many activities that can be incorporated into the classroom, especially for science and math teachers.



<http://www.helis.com>

Website presents information about the history of the helicopter.

[www.iwasm.org](http://www.iwasm.org)

Official website for the International Women's Air & Space Museum; presents information about women in aviation including the Mercury 13.

[www.polarfirst.com](http://www.polarfirst.com)

Special website set up to cover the around-the-world-pole-to-pole helicopter flight of Jennifer Murray and Colin Bodill in 2006-2007 when they set two world helicopter records; website would work well with geography, science, and math lessons.

[www.buildaplane.org](http://www.buildaplane.org)

Website explains how schools across America and the aviation industry are forming partnerships to provide an opportunity for high school students to actually build an airplane; website has video of actual students building an airplane.

[www.bestpaperairplanes.com](http://www.bestpaperairplanes.com)

Ten original paper airplane designs that actually fly.

[www.allstar.fiu.edu](http://www.allstar.fiu.edu)

Website of the Aeronautics Learning Laboratory for Science, Technology and Research; website includes information for teachers on aeronautical science, aviation history, and careers; curriculum objectives correlated to the National Science Standards and Florida State Standards.

[www.lessonplanet.com/search?keywords=aviation+and+aerospace](http://www.lessonplanet.com/search?keywords=aviation+and+aerospace)

Literally thousands of teacher-reviewed lesson plans available to all levels of instruction including worksheets. This link is to an aviation & aerospace search, but other searches and sorts can be secured by putting in different search terms on the lesson planet home page.

[www.aerofiles.com](http://www.aerofiles.com)

A comprehensive website for anyone interested in aviation; has information on specific airplane types, museums, aviation history, and more.

[www.theaerodrome.com](http://www.theaerodrome.com)

Aces and aircraft of World War I.

[www.nasm.si.edu/education/classroom.cfm](http://www.nasm.si.edu/education/classroom.cfm)

Website of the National Air & Space Museum; many good aviation education resources for classroom teachers.