

Educator Outreach Planning Guide



Table of Contents

Welcome!.....	2
How to Make a Reservation.....	3
School Coordinator Information.....	3
Outreach Program Options.....	4
Outreach Program Summaries.....	6
Portable Planetarium Requirements.....	10
Mobile Sonex Requirements.....	10
Aerospace Center for Excellence Media Release Form.....	12
Credit Card Authorization Form.....	13

Welcome!

The love of aerospace/science, technology, engineering and math begins early. When young students are supported and encouraged in their exploration of these and other critical STEM disciplines, they are far more likely to continue seeking out more information, laying the groundwork for an in-demand, technologically-fueled career. The Aerospace Center for Excellence connects with K-12 educators, community organizations, and local event organizers to share their knowledge and demonstrate how aerospace/science, technology, engineering, and math (STEM) matter in their lives.

The Aerospace Center for Excellence facilitates communication between the K-12 educational community and the aerospace/STEM industry. Educational entities often partner with the Aerospace Center for Excellence for efforts such as:

- Requesting guest speakers for Aerospace and STEM-related events
- Judging science and engineering fairs
- Requesting exhibitors for educational and community Aerospace and STEM events
- Participating in our Outreach and Field Trips

Kimberly D. Brewer, MEd
Education Director, Aerospace Center for Excellence



How to Make a Reservation

To make your reservation, please complete the form below and email it to our education team at educate@flysnf.org

School Coordinator Information

Outreach Date Requests | Please book your outreach experience with our education team a minimum of two weeks prior to your requested outreach date.

Time Specifications | Outreach program time specifications are listed below for each program offered.

Outreach Availability | Outreach programs are available Monday - Friday between 9:00 am – 1:30 pm.

Payment | After your request has been received and the date is confirmed with you by the Education team, you will receive an email with your invoice. Your invoice is to be paid no later than three days before your outreach date. No refunds for weather or special circumstances will be provided; we will reschedule you for another date. You may pay by completing the credit card authorization form included in this Educator Planning Guide or by mailing a check. Credit cards and checks are accepted. Please make checks payable to the Aerospace Center for Excellence, Inc.

Confirmation Details | Confirmation of your group reservation will be sent via email from our education team. If we are unable to accommodate your request, we will contact you via phone and/or email to discuss alternatives for your group.

Refunds | A full refund will be provided if the outreach experience is canceled within 72 hours of the scheduled trip. No refund will be provided if cancellation is received less than 72 hours from the scheduled start time.

Contact | Please contact our education team at educate@flysnf.org or (863)644-9737.

Important Information | Depending on the number of staff members/volunteers attending your Outreach Experience, we may require assistance from one or more of your school employees and/or staff members to assist the team with unloading and reloading. This will be communicated to you upon confirmation. Additionally, teachers are required to be in attendance at all times.

Permission Form | The Permission Form must be signed by all participating students' parents/legal guardians. All forms need to be scanned and emailed to educate@flysnf.org no later than three days before the planned outreach and the hard copies provided for the team upon arrival.

Outreach Program Options

You can select from the six options below.

OPTION ONE	OPTION TWO	OPTION THREE
<p>Portable Planetarium</p> <p>Maximum # of Students 120</p> <p>Grouping 6 groups of 20</p> <p>Time 30-minute sessions</p> <p>Total Outreach Time 3 hours</p> <p>Cost \$150.00 flat rate</p> <p><i>**An additional .50 cents per mile for any location outside a 50-mile radius from the Aerospace Center for Excellence</i></p>	<p>Mobile Flight Simulation</p> <p>Maximum # of Students 40</p> <p>Grouping 4 groups of 10</p> <p>Time 30-minute sessions</p> <p>Total Outreach Time 2 hours</p> <p>Cost \$150.00 flat rate</p> <p><i>**An additional .50 cents per mile for any location outside a 50-mile radius from the Aerospace Center for Excellence</i></p>	<p>Virtual Reality Headsets</p> <p>Maximum # of Students 40</p> <p>Grouping 4 groups of 10</p> <p>Time 30-minute sessions</p> <p>Total Outreach Time 2 hours</p> <p>Cost \$150.00 flat rate</p> <p><i>**An additional .50 cents per mile for any location outside a 50-mile radius from the Aerospace Center for Excellence</i></p>

OPTION FOUR	OPTION FIVE	OPTION SIX
<p>Mobile Sonex Aircraft</p> <p>Maximum # of Students 100</p> <p>Grouping 10 groups of 10</p> <p>Time 15-minute sessions</p> <p>Total Outreach Time 2.5 hours</p> <p>Cost \$150.00 flat rate</p> <p><i>**An additional .50 cents per mile for any location outside a 50-mile radius from the Aerospace Center for Excellence</i></p>	<p>Career Speaker/ Guest Speaker</p> <p>Maximum # of Students 400</p> <p>Grouping Discuss with ACE Education Team</p> <p>Time 40-minute sessions</p> <p>Total Outreach Time 2 hours</p> <p>Cost TBD, based on availability</p>	<p>Combination of Option 1-4</p> <p>Maximum # of Students 40</p> <p>Grouping 4 groups of 10</p> <p>Time 30-minute sessions</p> <p>Total Outreach Time 2 hours</p> <p>Cost \$275.00 flat rate</p> <p><i>**An additional .50 cents per mile for any location outside a 50-mile radius from the Aerospace Center for Excellence</i></p>

Outreach Program Summaries

Below are summaries of each of the Outreach Experiences the Aerospace Center for Excellence offers.

Outreach Experience	Summary	Grade Level
<p>Portable Planetarium <i>**See specific requirements below for our Portable Planetarium in order for our team to visit your school.</i></p>	<p>Weather The Weather cylinder depicts the earth's atmospheric circulation patterns including location of the wind systems and jet streams, as well as high and low air pressure masses. Enables students to interactively explore pressure systems, storm systems, longitude and latitude coordinate plotting and other global weather phenomena. Students can even investigate the significance of the wind systems on the routes of early explorers and learn how the jet streams influenced military decisions during World War II. Adds a new dimension to teaching earth science, weather patterns, the age of exploration, navigation and history.</p>	<p>6-8</p>
	<p>Solar System & Galaxy This exciting cylinder projects scaled representations of the sun and the principal bodies of the solar system in color with tables of basic statistics. The enormous distances between the planets are shown to scale. The cylinder also features a colored depiction of the Milky Way Galaxy, complete with spiral arms and a scaled distance line. An indispensable aid for the teaching of astronomy for middle school and up!</p>	<p>6-12</p>
	<p>Constellations Using the well-known constellation identification system of H. A. Rey, this cylinder features the 48 major constellations, the ecliptic and celestial equator, colorfully displayed for the ultimate in visual retention. Applications: Star identification, planetary positions and the path of the sun and moon. Useful at all grade levels to facilitate rapid orientation for outdoor observations.</p>	<p>K-12</p>

	<p>Deep Sky Objects Ninety-six deep sky objects on a background of 3000 stars (including many of the Messier objects) are coded for easy recognition. The cylinder shows variable and double stars, open clusters, nebulae and galaxies. Detailed identification numbers/symbols and the object's location in right ascension and declination, as well as its relation to a nearby constellation, are shown. Applications: An excellent training device for learning telescope use. Perfect for junior high, high school and college students with an astronomy background.</p>	<p>6-12 College</p>
	<p>Earth This cylinder is a projection of the entire terrestrial globe including all of the earth's land and ocean masses. Longitude is displayed at intervals of 15°, latitude is displayed every 10°, with a scale of projection of 1 inch = 40 miles. It is superior to flat maps in its total elimination of distortion, and is useful for studying weather patterns, ocean currents, time zones, social studies and current events. For the study of geography, earth science, geology and navigation.</p>	<p>4-12</p>
	<p>Celestial Coordinates A full projection of 3000 stars are displayed here against a background of the celestial coordinates, the ecliptic and the galactic equator. Right ascension is marked in 1-hour intervals, declination at 10° intervals, with precessional axis plus or minus 13,000-year increments. Extremely useful for angular measurement, location of faint celestial objects and spherical geometry. Applications: Physics, telescope use, positional astronomy, celestial navigation and precession at the junior high through college level.</p>	<p>4-12 College</p>
	<p>Biological Cell This one million-time magnification of a composite cell demonstrates the workings of a one-celled organism. The processes of cellular digestion and reproduction are illustrated in vivid color. Endoplasmic reticulum, ribosomes,</p>	<p>6-12</p>

	mitochondria, the Golgi complex, secretion vesicle, lysosomes, pinocytotic vesicles, microvilli, cilia, chromosomes and nucleolus are clearly displayed. An identification key is conveniently located on the cylinder. An ideal introduction to cellular biology.	
	<p>Plate Tectonics This global projection is based on the work of Dr. Paul D. Lowman on the Continental Drift Theory at the Goddard Space Flight Center. This map shows active ridges, faults, spreading centers and volcanic activity over the past 1 million years. Identification keys are clearly visible, making earth science instruction at junior high through college levels easy to illustrate. For earth science and geology.</p>	6-12 College
	<p>Ocean Currents This cylinder, features both warm (red) and cold (blue) currents in the world's oceans. Enable students to study the nature of currents, determine what causes them and discover the effects that the currents have on the earth. For earth science, weather patterns, the age of exploration, navigation and history.</p>	6-8
Mobile Flight Simulation	<p>Your students can take the flight controls and pilot multiple aircraft in various age-appropriate flight simulation scenarios. Led by an experienced pilot from our education team, your students can connect theory of flight to real world application. Students will learn to operate the aircraft on the ground, through takeoff and climb, and during approach and landing. They will also get the opportunity to practice maneuvering the aircraft, just like a real pilot.</p> <p>NOTE: This mobile lesson is a great pre-learning activity to prepare students for a field trip to the Redbird Flight Simulation Laboratory at the Aerospace Center for Excellence.</p>	3-8

<p>Virtual Reality Headsets</p>	<p>Open the whole world to your students with our Virtual Reality Experiences! Our Virtual Reality Experience allows your students the ability to gain a deeper understanding of settings and environments that you may not otherwise be able to show them.</p>	<p>3-8</p>
<p>Mobile Sonex Aircraft <i>**See specific requirements below for our Mobile Sonex in order for our team to visit your school.</i></p>	<p>Your students will have the opportunity to sit inside a Sonex, and learn about the instruments and the function of each part of the airplane.</p>	<p>K-5</p>
<p>Career Speaker/ Guest Speaker</p>	<p>Between our own staff and our extensive network of industry connections, we can offer your students/school a unique motivational opportunity. From pilots to air traffic controllers, from airport planners to aviation mechanics, we can connect your learners with an awesome opportunity to hear from men and women who are doing the jobs your students are dreaming of!</p>	<p>K-12 College</p>
<p>Combination of Option 1-4</p>	<p>See Details for Options 1-4 above.</p> <p>This Option will include four stations to include our portable planetarium, flight simulation, mobile sonex, and virtual reality headsets. Your students will rotate between all four stations for 30-minute sessions each.</p>	<p>3-12</p>

Portable Planetarium Requirements

- Your school **MUST** have an **indoor location** for the Portable Planetarium that meets the requirements below.
 - The dome requires a 25' square footprint, it is 11' tall, and requires electricity.
- Seats approximately **15 – 20** people at a time.
- The teacher must be present inside the Planetarium during presentations.

Mobile Sonex Requirements

Before you request the Mobile Sonex, please see the specifications below. The aircraft requires a significant amount of space.

- Wingspan – Requires at least 30 feet clearance
- Length – Requires at least 20 feet clearance (not including the SUV that pulls the aircraft)
- Requires a flat concrete surface with coverage if possible

Outreach Request Form

To be completed by the school and returned to our education team at educate@flysnf.org.

School Coordinator Name:	Click or tap here to enter text.		
School Name:	Click or tap here to enter text.		
School Address:	Click or tap here to enter text.		
City, State, Zip:	Click or tap here to enter text.		
County:	Click or tap here to enter text.		
Phone:	Click or tap here to enter text.		
Email:	Click or tap here to enter text.		
Outreach Date Request 1	Outreach Date Request 2	Outreach Date Request 3	
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	
Total # of Students:	Total # of Groups:	Grade Level(s):	
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	
Arrival Time:		Departure Time:	
Click or tap here to enter text.		Click or tap here to enter text.	
Field Trip Options		Details	Selection
Option One: Planetarium		**See above	<input type="checkbox"/>
Option Two: Flight Simulation		**See above	<input type="checkbox"/>
Option Three: Virtual Reality		**See above	<input type="checkbox"/>
Option Four: Sonex		**See above	<input type="checkbox"/>
Option Five: Guest Speaker		**See above	<input type="checkbox"/>
Option Six: Combination		**See above	<input type="checkbox"/>
Projection Selections **Only if requesting the Planetarium		Projection Selections **Only if requesting the Planetarium	Selection
Weather		<input type="checkbox"/>	Earth <input type="checkbox"/>
Solar System & Galaxy		<input type="checkbox"/>	Celestial Coordinates <input type="checkbox"/>
Constellations		<input type="checkbox"/>	Biological Cell <input type="checkbox"/>
Deep Sky Objects		<input type="checkbox"/>	Plate Tectonics <input type="checkbox"/>
Ocean Currents		<input type="checkbox"/>	

Aerospace Center for Excellence Media Release Form

Name of Student			
Name of Parent/ Legal Guardian			
Address			
Phone	(H)	(C)	(W)

Photo/Media Release: I understand that the Aerospace Center for Excellence Inc. (ACE) takes photographs and videos under the auspices of the ACE. I understand that photography and videography are released for use in MEDIA (the various means of mass communication, including television, websites, radios, magazines, and newspapers) for internal ACE media usage and public communications, as well as legitimate news and marketing organizations for the purpose of supporting public relations, media development, future attendance, and program visibility. I hereby give and grant my permission for my Junior ACEs participant (a minor child of which I am a legal guardian) to participate in all ACE programs as well as ACE subsidiary programs and give and grant guardian consent in perpetuity to any photography and videography including my child and release any and all rights pertaining to such photographs and videos.

<input type="checkbox"/> I CONSENT	<input type="checkbox"/> <u>I DO NOT CONSENT</u>
---	---

Please select one option above.

I, _____, agree and understand that by signing the Aerospace Center for Excellence Permission Form, my electronic signature is the legal equivalent of my manual/handwritten signature and I consent to be legally bound to this agreement. I further agree my signature on this document is as valid as if I signed the document in writing.

Parent/Guardian Signature	
----------------------------------	--

Credit Card Authorization Form

I hereby give Aerospace Center for Excellence, Inc authorization to process the following payment on my credit card.

Name on Credit Card _____

Company Name _____

Billing Address for Card _____

City, St, and Zip _____

Amount of Charge _____

Purpose of Charge _____

Type of card: VISA Mastercard Discover American Express

Credit card number: _____ - _____ - _____ - _____

Expiration date: _____ / _____ Security Code _____

Authorization signature: _____

Dated: _____

(for office use only)

Authorization number: _____

Assigned by: _____ Date: _____