Aerospace Education News

September - October 2008

Inspiring Students To Excel

October Events
- October 4-10 World Space Week
- October 19-25 Character Counts Week
- October 23-31 Red Ribbon Week (Friday, Oct. 24 is Wear Red Day!)

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Aerospace Education News

Aerospace Education News is the official aerospace education bimonthly publication of the Civil Air Patrol at CAP National Headquarters, Maxwell Air Force Base, Ala.

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If you have news, events, or ideas we might consider for the newsletter, please submit them electronically to jstone@cap.gov.

NCASE 2008 - October's Premier Event

Dr. Bonnie J. Dunbar

When you think of October, what comes to mind is back to school, fall weather, and of course, NCASE! The National Conference on Aviation and Space Education is shaping up to be one of the best so far. Such notable speakers as Dr. Bonnie J. Dunbar and Dr. Janice Voss (both distinguished astronauts) will highlight the 39th NCASE to be held at the Crystal Gateway Marriott Hotel in Arlington,

Dr. Janice Voss

Virginia on October 16-18. In addition to Dr. Dunbar and Dr. Voss, NCASE 2008 will also feature presentations by Ken Blackburn (Guinness Book of World Records record-holder and author of *Greatest Airplane Book);* Gregory Condon (manager of the NASA Smart Skies ™ Education Project); Barrington A. Irving, Jr. (the first black pilot and youngest person ever to fly solo around the globe); and Paula Lewis (NASA deputy assistant administrator for regions and center operations).

The NCASE agenda will include several tracks, including science of aviation and space, teaching and learning methodologies and technologies using aerospace education as the theme, outreach in aviation education, and importance of educating youth for aerospace careers. Participating educators will be eligible to earn 30 contact hours toward professional development.

NCASE is your opportunity to meet and network with your peers, noted aviation heroes and other leaders in both formal and informal educational programs. This conference will vastly expand your understanding of the latest and greatest tools to inspire learning and student achievement. This conference will also provide you with unique strategies for teaching S.T.E.M.(Science, Technology, Engineering, and Mathematics) concepts in the classroom.

The location for NCASE allows for family time in an educational and fun venue. With monuments, museums, restaurants, and shopping just a short ride on the Metro, you will find something for everyone. We hope you will take this opportunity to enrich and enhance your aerospace knowledge and learn what's new in aerospace education. See you there!

Barrington A. Irving, Jr.

In the AEM spotlight ...

Carla Chin

Energy, enthusiasm and a "can do" attitude describe Carla Chin. She joined CAP as an Aerospace Education Member in 2007 and has brought her interest and desire to know more about aviation and space with her. Carla's introduction to CAP began at a STARBASE presentation where CAP Capt Greg Stritch (also Director of STARBASE Florida) spoke to her after the meeting. She asked him how she could bring what he was doing into her classroom and he gave her three short words - Civil Air Patrol. From there she researched CAP and joined as an Aerospace Education Member (AEM). Carla began using CAP aerospace education resources in her classroom and applied for and received two AFA grants through CAP. Carla also got involved in the School Enrichment Program's Jr. Cadet Program at Christ the King Catholic School (where she taught fifth grade). The school had a high rate of success with the program that was demonstrated by a 25% improvement in assessment on aerospace knowledge from the beginning of the program to the end. Carla's enthusiasm and interest in the program benefited both herself and her students.

Carla and her students perform an aerospace activity.

Even though Carla Chin's background was that of a business major in college and her first job was as a department store buyer, she found her true passion in teaching, science and aerospace education. She has been teaching now for "fifteen wondrous years" (as she puts it) and looks forward to many more. She is now teaching sixth grade at San Jose Catholic School in Jacksonville, Florida.

The Air Force Association also played a major part in Carla Chin's interest and excitement about aerospace education. About five years ago, she received information about the AFA Falcon Chapter #399's interest in sponsoring local area teachers to promote mathematics and science in the classroom. She met (Ret.) Col Frank Kozdras and received encouragement and later she applied for AFA educator grants and ultimately became the Falcon Chapter's Teacher of the Year. It was at that awards ceremony that she met Capt Stritch and learned about the opportunities that Civil Air Patrol offered.

Carla Chin's most recent venture into the world of aerospace education was attending a workshop at Kennedy Space Center in July. She got to take a flight in a CAP airplane and during the workshop she was able to meet and talk with author Andrew Chaikin and astronaut Dr. Tom Jones. During this four-day workshop, she learned new information and ideas for teaching her students and inspiring her students..

Being a wife, mother of four and a classroom teacher makes for a busy life, but Carla found time to get involved with an organization that helped enhance her love of science and open new windows to the world of aerospace.

"I taught two science classes daily [at Christ the King Catholic School] and felt compelled to expose my students to interesting and real world lessons that would motivate them."

-- Carla Chin

Carla and CAP pilot prepare for orientation flight

In the AEO Spotlight.....

1Lt Dayle Robinson - Singing River Composite Squadron - MS 051

Having been inspired by a father who served in WWII, Korea and Vietnam, Dayle Robinson has loved aviation since he was a child. Dayle was introduced to the wonders of aviation when his father took him to see the Blue Angels perform in Meridian, Mississippi, when he was five. His father arranged a flight for him in a helicopter at age 6 and as they say....the rest is history. Dayle wanted to be involved in anything that had to do with aviation and space.

Between the ages of 8 and 10, Dayle's father was stationed in Thailand and Dayle got the honor of having a Colonel in the USAF (one of the Tuskegee Airmen) as a dinner guest one night. The Colonel told him stories about his missions in WWII and he encouraged Dayle to do well in school so one day he could be a pilot or an astronaut. Dayle kept that dream alive even though he could not become a pilot because of his eyesight. Once again, his father told Dayle not to give up the opportunity to serve his community. His father advised him to try to become a firefighter or a police officer. At the age of 18, Dayle became a volunteer firefighter and later a police officer. He retired from law enforcement after giving 30 years of service.

Dayle Robinson was not finished with serving his community. A few years after Hurricane Katrina hit his area, Dayle joined Civil Air Patrol. The need to take a position of responsibility led Dayle to become the Squadron Finance Officer and Aerospace Education Officer.

Dayle Robinson has taken the joy of being the Aerospace Education Officer as seriously as his other career moves. He has provided opportunities to local school children at Singing River Elementary School to learn principles of aviation through hands-on activities such as making paper airplanes. He has also provided teachers the opportunity to participate in the CAP Fly A Teacher program. These teachers were able to attend a ground school, learn the parts and controls of the airplane, and take an orientation ride. These students and teachers were given a rare opportunity to learn first-hand how exciting and motivating aviation is. As one teacher, Amy Brown, put it, "There's a lot more to education than just reading, writing and arithmetic. This is a different outlet for kids to learn. They need to experience things."

Dayle Robinson poses with teacher during Fly A Teacher workshop

If Dayle Robinson's story does anything, it should be a testament to the idea that even though your dreams don't come true as you planned, you can still be successful and enrich lives by doing what you do best. And what Dayle does best is inspire and motivate others to love aviation and space as much as he does. He is truly an exceptional volunteer and citizen.

"Even though I am not a formal educator, I hope that I can touch the spirits of the young people in our area and inspire them to have an interest in aerospace education and aviation. Maybe one of them can become an astronaut; my heart would go into space vicariously with them."

--Dayle Robinson

CAP's Elementary School Enrichment Program Evolves into ACE

Cappy, a young astronaut, Cadet Ken and Air Bear prepare to welcome the new ACE program.

The CAP elementary aerospace school enrichment program will continue in 2008-2009 for a second phase of field-testing to ensure efficacy of the program for elementary schools. Revisions have been made and will continue to be made as a result of last year's teacher evaluation data.

The new name for the program is ACE: ***Aerospace Connections in Education***. A new logo is combined with the new name to be more appealing to all participating grade levels, kindergarten through sixth grade. Cappy, the eagle mascot, will continue to be the program's mascot.

This unique, cross-curricular program connects to all areas of the educational program and promotes excellence in many facets of the lives of young learners. National standards-based lessons address character, physical fitness, and academic subjects using the engaging and motivational aerospace theme. The ultimate goal of the program is to prepare young people to become responsible citizens who may fill the future aerospace workforce.

Due to the program's alignment with October's Red Ribbon (Drug Free Awareness) Month and Character Education Month celebrations, the month of October is again scheduled for the program's lift-off. The national "lift-off" celebration will be held on October 7. For more information, contact Susan Mallett @ smallett@capnhq.gov .

Aerospace is Cool in Education!

2008 UNITED STATES YOUNG AVIATION ARTIST CONTEST WINNERS ANNOUNCED

The Brewer Trophy Aviation Education Association and The American Society of Aviation Artists are pleased to announce the national winners of the 2008 United States Young Aviation Artist Contest - Design an Aviation Stamp.

At least two winners have been identified as members of Civil Air Patrol's elementary aerospace school enrichment program. Congratulations to the students and their teachers!!!

- National Second Place Wiiner and First Place State Winner from Alabama
  Group II: Ages 10-14
  Jacob Bullock – Zion Chapel Elementary, Christina Kirkland, Teacher
- First Place State Winner from Virginia-
  Group I:Ages 8-10
  Emanuel Etienne – Homeschool with parent, Sabrina Etienne

Jacob Bullock- Alabama- National Second Place for Group II "USA Apache"

CURRICULUM CORNER .....

Docking the Space Shuttle

(Presented at National Board 2008-Modified lesson from NASAExplores)

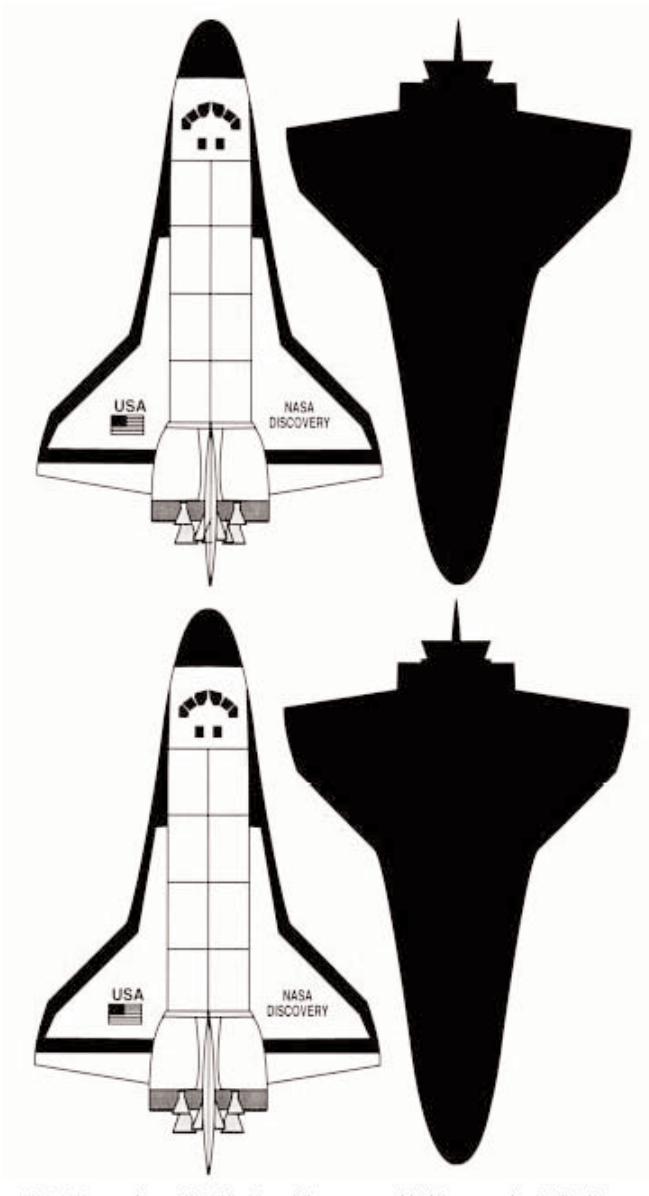
Objectives:
• Students will simulate the orbiter of the space shuttle docking with the International Space Station (ISS).
• Students will define space shuttle, orbiter, ISS and docking
• Students will use teamwork and problem solving skills.

National Science Standards:
Content Standard B: Physical Science
• Position and motion of objects
Content Standard D: Earth and Space Science
• Objects in the Sky
Content Standard E: Science and Technology
• Understanding science and technology

Grade Level: 3-8

Materials:
• Four easily adjustable belts (If dividing students into more than 2 teams, provide 2 additional belts for each additional team. If you cannot get belts, you may extend the amount of string being used in order to make a loop at each end of the long string, and use a slip knot in order to make the loop adjustable for students to put on and remove.)
• String or yarn – approximately 8 feet long for each team
• String or yarn – approximately 6 inches long for each team
• Cut-out copy of shuttle for each team
• A pencil for each team
• A cup for each team
• Cones, rope, or other item to distinguish starting and stopping line (optional)

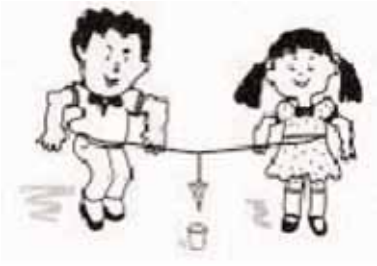
Background:
NASA has learned that practice makes perfect. Making a mistake in space can be disastrous. Since astronauts are so far from home, a mistake could cost them their lives. Astronauts use training simulators to practice many of the skills they must perform in space. One of the games the crew plays on the International Space Station (ISS) is the simulator program, which is also the real docking tool used to dock with the Shuttle. The tool provides a way for the crew to have fun during their free time, as well as to practice their docking skills. Make no mistake—docking the Shuttle with the ISS is no game. If an astronaut makes a mistake, there's no reset button to start the process over again. Often, astronauts discuss their practice sessions and go over any problems that occurred.



Note: Two copies of the Shuttle orbiter are provided for ease in duplication.

CURRICULUM CORNER .....

Docking the Space Shuttle (cont.)



Procedure:

Note: Prior to students conducting the activity, create the equipment needed for each team. First, tie the ends of the long piece of string (approximately 8 feet in length) to a belt in order to create two belts connected by a long piece of string. Find the center point of the long piece of string. Tie one end of a small piece of string (approximately 6 inches in length) to the center point of the long string.

Next, create the orbiter model to attach to the small dangling piece of string. To do this, cut out the orbiter pictures showing the front and back of the orbiter. Tape the front of the orbiter to a pencil with the nose of the orbiter toward the tip of the pencil. Tape the back of the orbiter on the other side of the pencil so that the pencil itself is sandwiched between the two orbiter cut-outs. Attach this to the small piece of string hanging in the middle between the two belts.

Lesson Presentation:

1.Write the following words on the board, or have them written on sentence strips: space shuttle, orbiter, ISS, dock. Ask volunteers to remind the class of the meaning of the words.

• **space shuttle**: The space shuttle is a spacecraft that has reusable parts such as rockets (solid rocket boosters) and the part that houses the astronauts. The space shuttle is like a big bus that carries stuff to and from space. NASA began using the space shuttle in 1981 to carry astronauts and other materials into space.

• **orbiter**: This is the part of the space shuttle that looks similar to an airplane. It is where the astronauts stay.

• **ISS**: ISS stands for International Space Station. This is like a home and workplace in space where astronauts live, gather information, and do experiments.

• **dock**: Dock means to connect or join. When 2 people shake hands, their hands connect. When a spacecraft, such as the space shuttle, connects and joins the ISS, we say it docks.

2. Discuss the importance of all the training the astronauts do before they go into space. Share the background information with the students to make sure they understand that astronauts must practice in simulators on Earth before they try to do it for real in space. Practice makes perfect, and if you don't get it right in space, you probably cannot try it again like you can when you practice using a computer here on Earth.

3. Explain to the class that they will be astronauts in training. They will simulate a docking procedure for the Space Shuttle with the International Space Station.

4. Have students get a partner. Then, create at least two teams. (No more than 7 pairs per team – or a total of 14 individuals – are recommended.)

5. Supply each team with the two belts connected with the string and the orbiter attached in the middle.

6. Show students a cup. Tell them that this represents the place on the International Space Station where the orbiter is supposed to connect, or dock.

7. Place a cup about 23 feet in front of each team. (You may desire to have a cone, line, or some other marker to designate the starting line for teams and the ending point where the cups are to be located.)

8. With one set of partners, have them demonstrate how to put on the belt with the orbiter hanging between them. Have them make their way to the cup and carefully try to get the orbiter in the cup without knocking the cup over. If they knock the cup over, they must run back to the starting line and try again. Explain that it is very important not to knock the "space station" over! Have the demonstrators return to their team, and tell the class that when partners return to the team, they take off the belts and let the next pair have a turn. The first team to successfully have all its members dock with the station wins.

9. Once the demonstration is over, have the first pair of each team to put on their belts so that the orbiter is dangling between them. Ask if there are any questions. If there are no questions, allow students to engage in the docking with the ISS relay race!

Summarization:

Ask the following questions to summarize the lesson:

• What does it mean to dock with the ISS? (To connect or join to the ISS.)

• How do you think this activity is really like docking in space? (You have to communicate and pay close attention to what you are doing. Just like you slow down to get the orbiter in the cup, the orbiter slows down when it is close to latching on to the ISS. Also, when you make small movements and adjustments in getting the orbiter into the cup, it is just like working in space.)

• How do you think this activity is different from docking in space? (You are not traveling as fast as the space station or orbiter, which travels at 17, 500 miles per hour! The cup stays in place and is not actually moving like the ISS. The orbiter and ISS weigh much more than you and the cup.)

• What worked best to dock the orbiter with the station in this activity? (Answers will vary.)

• Why is teamwork important on Earth and in space? (Answers will vary.)

Extension (for older students):

1. Give each team the materials and a little background. Have them construct a method to get the Space Shuttle to dock with the ISS without using their hands.

2. Divide students into teams of 4 - two to dock the shuttle and two to be the controllers. Blindfold or cover the eyes of the dockers and have the controllers give them directions to dock the Shuttle. Discuss how the procedure could have been improved and why following directions and teamwork are important.

AEO/AEM News and Views

The Air Force Association (AFA) continues their outstanding support of CAP and aerospace education. The AFA has now contributed over $250,000 in aerospace grants for our CAP units and our teachers who are promoting aerospace in their squadrons and classrooms. These grants are for $250, and an application can be found at www.cap.gov/ae. The deadline for this current cycle of grants is September 30 and the grants are for our teacher members who are promoting aerospace.

Additionally, every year the AFA also offers $250 aerospace grants that are different from the AFA/CAP grants. These grants are also for any teacher promoting aerospace. Our teacher members are eligible for these grants too, regardless if you have received one of our grants or not. These grants are only offered once a year with a deadline of November 15th. Results are announced in January of the next year. For more information about these grants, go to www.afa.org/aef/aid/grants.asp. Historically, our AEMs have been selected for these grants, too.

Students at Lakeside High Schoo in Georgial share air rockets with elementary students as a result of AFA grant.

Aerospace and National Board 2008

Col Andrew Skiba of FL lands the space shuttle in an aerospace education activity at National Board.

Where can you land the space shuttle, design and fly a unique aircraft, and build a model of the Hubble telescope all in one week? If you attended the National Board Aerospace Education activities you found all this and more. The activities were designed to provide variety and information for the participants.

Beginning with the pre-conference workshop on Wednesday and ending with the Satellite Toolkit learning lab on Friday, members were provided opportunities to experience the fun of hands-on activities as well as useful informationto use in classrooms and squadrons..

The "Land the Space Shuttle" activity was very well received by members including our National Commander, Maj Gen Amy Courter. This activity was led by the National Aerospace Education Advisor, Col Michael Murrell.

Congratulations to Brewer Award winners, Lt Col Sherwood Williams (WI WG), Cadet Daniel Myers (MD WG), and ATK Launch Systems. AE mission award winners were:
National Winners - First Place, WI -Second Place, WA - Third Place - NY. Regional winners were: SER-GA; SWR-AZ; NER-NY; NCR-NE; RMR-UT; GLR-WI; MER-VA; and PCR-WA. We appreciate the hard work and dedication from all of our wings and members.

Soaring with Fly A Teacher in Alabama and Georgia

From Boaz in North Alabama to the Dothan area in South Alabama, teachers are experiencing the excitement of flying in a CAP aircraft. The teachers are taking this excitement back to their students; giving their imaginations' wings. They are sharing the science applications and career possibilities of aviation and space education. This effort is being coordinated by the Alabama Director of Aerospace Education, Maj Silvano Wueschner, with support from his Wing Commander, Col Michael Oakman. This is only the beginning for this effort and many more teachers in Alabama are signing up to be AEMs due to Fly A Teacher.

Georgia Wing is also flying high with the Fly A Teacher program. Many Georgia teachers, including the group-shown above from Central Fellowship Christian Academy, are catching the aviation bug. Leadership and support in the GA Wing have been provided by the Wing Commander, Col Jay Hughes, and the Director of Aerospace Education, Lt Col Thomas Smith. Georgia is setting new standards for their aerospace education program.

REGION TO REGION

NORTHEAST REGION

September 11
National Science Foundation (NSF) will sponsor a one-day workshop at Dartmouth College in New Hampshire to provide an introduction to and overview of NSF.
http://www.nsf.gov/events/

September 20
Saturday Seminars: Where on Earth Are You? workshop will be conducted at the University of Massachusetts in Amherst, Massachusetts.
http://k12s.phast.umass.edu/sess/

October 14-15
New Jersey Science Convention will be held in Somerset, New Jersey.
http://www.nsjc-online.com/

October 22-24
The Association of Science-Technology Centers (ASTC) will hold its conference in Philadelphia, Pennsylvania.
http://www.astc.org/conference/index.htm

MIDDLE EAST REGION

October 16-18
National Conference on Aviation and Space Education (NCASE) will be held in Arlington, Virginia.
http://www.ncase.info

October 22-24
South Carolina Science Council will hold its conference in Myrtle Beach, South Carolina.
http://www.southcarolinascience.org/

October 30 - November 1
National Science Teachers Association Area Conference wil be held in Charlotte, North Carolina.
http://www.nsta.org/conferences/2008cha/

GREAT LAKES REGION

October 18
The Metro Detroit Science Teachers Association will hold its convention in Southfield, Michigan.
http://www.mdsta.org/conf.htm

October 29 - November 1
Great Lakes Planetarium Association will hold its conference in Milwaukee, Wisconsin.
http://www.glpaweb.org/conference.htm

SOUTHEAST REGION

September 20-21
Wings and Wheels 2008 Air Show and Car Show will be held at the Bessemer Airport in Bessemer, Alabama.
http://www.bhmairshow.com/airshow/index.htm

October 18-19
Boshears Skyfest 2008 will be held at Daniel Field in Augusta, Georgia.
http://www.boshears.com/

October 23-25
Florida Association of Science Teachers will hold its conference in Orlando, Florida.
http://www.fastscience.org/conferences.php

November 8-9
2008 Space & Air Show at Kennedy Space Center will be held at the Kennedy Space Center in Florida.
http://www.kennedyspacecenter.com/space_and_air_show/index.asp

NORTH CENTRAL REGION

October 9-11
Nebraska Association of Science Teachers will hold its conference in Fremont, Nebraska.
http://www.neacadsci.org/nats/conferences/index.htm

SOUTHWEST REGION

September 25
Women Air Service Pilots (WASPs) will hold a reunion Fly-In in Irving, Texas.
http://operationfifinella.org

October 11-12
Fort Worth Alliance Air Show will be held in Fort Worth, Texas.
http://www.allianceairshow.com/

October 18
Sally Ride Science Festival will be held in Houston, Texas.
http://www.sallyridescience.com/festivals

October 18-19
Little Rock Air Force Base's Air Show will be held in Little Rock, Arkansas.
http://www.littlerock.af.mil/

October 25-26
Wings over Houston Air Show will be held at Ellington Field in Houston, Texas.
http://www.wingsoverhouston.com/

November 14-16
Students for the Exploration and Development of Space (SEDS) will hold its national conference at Texas A&M University in College Station, Texas.
http://spacevision.seds.org/index.php

November 15
Sally Ride Science Festival will be held in Baton Rouge, Louisiana.
http://www.sallyridescience.com/festivals

ROCKY MOUNTAIN REGION

September 13
Sally Ride Science Festival will be held in Colorado Springs, Colorado.
http://www.sallyridescience.com/festivals

September 20
7th Annual Wendover Wings and Wheels Show will be held at Wendover Airport in Wendover, Utah.
http://www.wendoverairbase.com/

PACIFIC REGION

September 27-28
California International Airshow will be held in Salinas, California.
http://www.salinasairshow.com/

September 27 and October 4
Sally Ride Science Festival will be held in Silicon Valley, California, on Sept. 27 and in Los Angeles, California, on Oct. 4.
http://www.sallyridescience.com/festivals

October 30 - November 2
California Science Teachers Association Conference will be held in San Jose, California.
http://cascience.org/csta/conf_home.asp