Our History…

The Challenger Center for Space Education is a not-for-profit organization headquartered in metropolitan Washington, D.C. Formed in 1986 by the families of the NASA Challenger 51-L Space Shuttle crew, it is a living memorial dedicated to continuing the education mission. The organization develops programs that help inspire middle school students to learn and explore while fostering an interest in math, science and technology. The Challenger Center creates space-based learning environments in which students have a hands-on opportunity to realize their critical-thinking powers and decision-making skills that help them become scientifically literate citizens of the 21st century.

In 2001, the Challenger Space Center in Peoria, Arizona, opened its doors and became the 43rd site in a growing Challenger Center network that stretches across the United States, into Canada and England. Each year more than 20,000 students and teachers from Arizona will "fly" a mission as part of the Challenger Space Center's educational simulations. Our scenarios include *Rendezvous with a Comet*, *Voyage to Mars*, and *Return to the Moon*.

The Challenger Space Center is a story of the Peoria community bonding together to give all of Arizona's young people the opportunity to "touch the future." The Challenger Center is the catalyst by which educators, parents, corporate executives, community leaders, government officials and others join forces in a union with school systems to become directly involved in the education of Arizona's youth.

Our Mission…

The mission of the Challenger Space Center is to inspire, excite, and educate people of all ages about the mysteries and wonders of space, science, and the universe in which we live.

The Center…

The Challenger Space Center is an exciting, hands-on facility where students and educators work in teams to solve real-life mathematics, science, and technology problems during a space flight simulation. The unique architectural design and the awe-inspiring, 6-story space Rotunda mural by world-renowned artist, Robert McCall, set the stage for an amazing experience.

The Center's simulator is comprised of two distinct environments. The "Space Station" gives students a simulated experience of working in space as a team of scientists and engineers. "Mission Control," modeled after Mission Control at NASA's Johnson Space Center in Houston, Texas, plugs the students into decision-making roles crucial to the completion of the mission. The Challenger Space Science Center presents tasks and poses realistic dilemmas to develop problem-solving and communications skills. The experience involves up to thirty-six active participants (students or teachers) in a 2-½ hour mission.

Our Location…

The Challenger Space Center is located at 21170 N. 83rd Ave, Peoria, Arizona, 85382. Conveniently located north of Union Hills, just off Loop 101 in the Northwest Valley, the Center is easily accessible to schools throughout Arizona.

Daily Mission Schedule…

The Challenger Space Center has scheduled three education missions during our normal weekday business hours of
9 am- 4 pm.

AM — 9:30 am - 12:00 pm
PM — 12:30 pm – 3:00 pm
AFT — 3:30 pm – 6:00 pm *

*The Flight Director staff will release the afternoon mission group after the facility is closed to the public. Afternoon groups are encouraged to arrive early to visit the Galaxy Gift shop.

Please note that on-time arrival helps to guarantee on-time departure.

Mission Scenarios…

Supporting the educational experience at the Challenger Space Center are innovative curriculum materials and $750,000 worth of computer software and hardware that assist the student crews on the simulated space flight. These materials become integral elements of the simulation. The Challenger Space Center is capable of running three exciting scenarios, each based on futuristic space missions.

Rendezvous with a Comet

5th-6th grade

It is the year 2061. In orbit around the sun, between Earth and Mars, a small Space Station is chasing its long awaited target: Comet Encke. This short-period comet visits every 3.3 years, allowing your highly trained team of scientists and engineers to become the first space-based astronomers. The flight crew has just two short hours to determine a rendezvous point with the comet and launch a scientific probe into its tail. This is the chance of a lifetime!

**all 5th grade missions will be scheduled in the second semester.*

Voyage to Mars

7th –8th grade

It is 2076. To mark the 100-year anniversary of the Viking missions, a replacement crew of colonists approach Mars to begin their two-year stay on Earth's dusty, red neighbor. Prior to orbit insertion, the crew will launch a probe to study Phobos or Deimos, the moons of Mars. Down below at Chryse Station, as the Mars Controllers anxiously await their ride home, a team of explorers sets out on a geological mission. Hang on tight, things could get a little crazy!

Return to the Moon

9th-12th grade

The year is 2015. For the first time since 1972, a crew of astronauts is returning to the Moon…this time to stay. Prior to leaving Earth's orbit, the crew will rescue a stranded probe containing the crucial data needed to determine the best lunar landing site. Their goal is to establish a permanent base on the lunar surface for observation and exploration, and act as a stepping-stone for future, manned explorations.

Pre-Mission Teacher Training…

A successful mission for all students begins long before arriving at the Challenger Space Center. Each mission is a culminating event that follows a minimum of 4-6 weeks of comprehensive, interdisciplinary, in-class training by mission-trained educators.

The essential preparation starts with an intensive, pre-mission training for teachers. First time teachers will attend a mandatory 8-hour workshop, while alumni teachers returning for the same mission will attend a specifically tailored, mandatory 2-hour workshop. (Alumni teachers returning for a new mission will be considered first-time teachers.) The attending teacher will meet the Flight Director staff, experience the mission first-hand, participate in active discussions relating to learning styles & science standards, and receive 4-6 weeks worth of pre-mission curriculum. After completing Pre-Mission Teacher Training, each educator will receive a certificate verifying attendance for possible Continuing Education Credits.

Please see the attached listing of Pre-Mission Teacher Training dates for the 2002-3 school year. Each teacher is responsible for scheduling his/her training a minimum of 8 weeks prior to the scheduled mission date.

TEACHERS WHO DO NOT ATTEND PRE-MISSION TEACHER TRAINING WILL <u>FORFEIT</u> THEIR SCHEDULED MISSION AND <u>WILL NOT</u> BE AFFORDED A REFUND.

Mission Registration…

Mission Registration for 2002-3 is now open! When you call to schedule your 2-½ hour mission, a Flight Director will complete the Mission Registration Form. At the time of registration, a mission date & time will be assigned, and Pre-Mission Teacher Training will be scheduled. The Flight Director will review the information and discuss payment options. Once the Mission Registration Form is completed, registration information will be processed and a copy of your completed Mission Registration Form will be returned to the teacher as written confirmation, via email, fax, or mail.

During Registration, the Flight Directors will try to accommodate mission requests; however, the Challenger Space Center cannot guarantee the first choice of mission slots or Pre-Mission Teacher

Training dates. When scheduling a mission or Pre-Mission Teacher Training, be aware of the district master calendar, all transportation regulations, school-wide testing schedules, lunch schedules, and personal schedules. When registering, please call with three possible dates in mind for each mission. Missions fill up fast…call early!

If a scheduled mission date needs to be changed, the Challenger Space Center cannot guarantee that accommodations can be made for alternate missions. Changes will be subject to a Mission Change Fee of $100.

Please reference the Mission Registration Form in this packet for all the information needed prior to calling. This will speed up your registration process.

Program EVA…

The Challenger Space Science Center has developed an alternate classroom scenario for schools that bring two groups for an all-day adventure. While one group of up to 36 students experience the simulated space mission, the second group of students will take a guided tour of the facility, view an IMAX produced space movie, and participate in a team building activity. When it is time for the second mission to begin, the first group of students will remain actively engaged in the extra activities. Make the Challenger Space Center an all-day event for your students.

Mission Day…

On the scheduled Mission Day, the Flight Director staff will greet each group on the Gantry. It is recommended that each group arrive no earlier than 15 minutes prior to and no later than 10 minutes to the mission with the following items:

- 3 Copies of a Completed Crew Manifest
- Name Tags for Each Student (First & Last Name included)
- Emergency Contact Information
- Team Mission Patch
- One Additional Chaperone

Each mission starts with a Pre-Briefing, guided by the Flight Director staff. This will allow the Flight Director to assess prior knowledge and review key points. Crew assignments will be given from a completed

Crew Manifest. Students will be separated and sent to their respective areas for the beginning of the mission.

During the mission, a crew exchange will take place, allowing for all students to experience both "Mission Control" and "Space Station." In the *Voyage to Mars* scenario, this is expected. It is crucial to the realism of the mission that teachers **do not** inform students of the crew exchange in *Rendezvous with a Comet* or *Return to the Moon* scenarios. During the Crew Exchange, the Flight Director staff will conduct a Mid-Briefing to discuss key issues that have arisen in the first half of the mission.

After the completion of a successful mission, the Flight Director staff will guide the students through a Post-Briefing discussion related to scientific principles discovered, teamwork & communication skills used, and life skills demonstrated throughout the mission. After the Post-Briefing, students will be released to the teacher for departure.

Assessment & Evaluation…

Assessment and evaluation are crucial to the operation of a quality program. The Flight Director Staff will complete a General Mission Assessment for each mission. Teachers may request a copy of the General Mission Assessment prior to departure. Teachers will need to complete and return the Flight Director Assessment prior to departure. Students will need to complete the Mission Evaluation upon returning to school. The Mission Evaluation from the students will need to be returned to the Challenger Space Center no later than one week after the mission.

Student Management…

A visit to the Challenger Space Center ignites the imaginations and creativity of students in an exciting, educational, problem-solving environment. Maintaining a safe, learning environment for every guest is the top priority of every staff member. Teachers are expected to partner with the Challenger Space Center staff to maintain the safe, learning environment at all times. Teachers are encouraged to advise students of school discipline policy, Challenger Center discipline policy, and the consequences of any violation prior to Mission Day.

The Challenger Space Center has three simple guidelines to help students be responsible and respectful at all times.

1. When the Flight Director/Tour Guide raises his/her hand in the air, students are expected to:
   - Cease all conversation immediately.
   - Direct their eyes to the Speaker.
   - Listen carefully.
   - Stand or sit still.
   - Place their hands at their sides or in their lap.
2. Follow the directions promptly.
3. Always maintain safe behavior.

A student will be warned one time if he/she mistakenly violates these guidelines. After a second infraction, the student will be asked to leave the mission with the additional chaperone or teacher.

Lunch Schedule…

The Challenger Space Center's Cosmic Café is often available **BY RESERVATION** for groups interested in eating sack lunches. When registering for you mission, we recommend you reserve the Cosmic Café for lunch. Due to limited facility space, we cannot guarantee the Cosmic Café to groups with a reservation made after Mission Registration is completed.

The Cosmic Café is outfitted with vending machines serving soft drinks, juices, snacks, and ice cream, available from $.75 to $3.00. The Cosmic Café is available for your students to eat lunch before or after your mission.

AM Mission— 12:30 pm - 1:00 pm
PM Mission— 12:00 am – 12:30 pm

Use of the Cosmic Café is free for groups participating in a mission. Teachers are asked to chaperone students at all times and play an active role in the cleanliness & maintenance of the Cosmic Café.

If the Cosmic Café is unavailable, the Challenger Space Center recommends picnicking on the lawn or relaxing on the patio. McDonald's is conveniently located a quarter of a mile north of the Center, on the corner of N. 83rd Ave & Deer Valley Road.

Galaxy Gift Shop…

The Galaxy Gift Shop offers a wide variety of educational merchandise, including books, posters, games, and space memorabilia with prices ranging from $.50 to $25.00. Students are encouraged to visit the gift shop in small groups of 3-6 before or after the mission. Students will need to be supervised by a teacher or chaperone.

Fee Information…

Mission Fee: *Includes Pre-Mission Teacher Training, Curriculum, & Mission	**$700.00**
Afternoon Mission Fee: (3:30 pm to 6:00 pm time slot) *Includes Pre-Mission Teacher Training, Curriculum, & Mission	**$500.00**
Mission Deposit:	**$100.00** (non-refundable)
Re-scheduling Teacher Workshop:	**$100.00** per teacher
Replacement Curriculum Materials & Resource Binder:	**$50.00** per set
Additional Teachers to be Trained:	**$50.00** per person
Program EVA package:	**$175.00** per mission
Mission Rescheduling Fee:	**$100.00**
Mission Cancellation Fee:	**$100.00**
Workshop Date Change Fee:	**$100.00**

Contact Information…

To register for a mission, please contact:

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Challenger Space Center
21170 N 83rd Ave
Peoria, AZ 85382
(623) 322-2028
(623) 322-3716 FAX
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