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**Subseries:** Chron File, 1989-1993

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**OA/ID Number:** 13770  
**Folder ID Number:** 13770-002

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**Folder Title:**  
NASA Teleconference 9/19/91 [OA 8328]

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<b>G</b>	<b>26</b>	<b>21</b>	<b>6</b>	<b>2</b>

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THE WHITE HOUSE

WASHINGTON

September 13, 1991

MEMORANDUM FOR THE PRESIDENT

THROUGH: TONY SNOW  
FROM: CURT SMITH  
SUBJECT: NASA TELECONFERENCE

On Thursday, September 19, at 2:40 p.m., you will deliver brief remarks (3 minutes, on teleprompter) to an audience of approximately 18 third and fourth graders from several DC-area elementary schools at NASA headquarters and, via a satellite hookup, a classroom of fourth graders at College Park Elementary School in LaPorte, Texas. Acknowledgements include Admiral Richard Truly, astronauts Charlie Bolden and Tammy Jernigan, and aerospace educator Lisa McLeod.

Your remarks focus on the importance of math and science in education and the value of learning about space exploration. A question-and-answer session with the school children will follow.

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Your remarks focus <sup>value</sup> on the importance of math and science in education and the ~~excitement~~ of learning about space exploration. A question-and-answer session with the school children will follow.

Utah

Per Cathy Hutchinson X 6510

Acknowledgements for Utah

✓ Bush-Quayle Chairperson Bonne Stevens <sup>ie</sup> <sup>SP?</sup> Verify (801) 277-2966

? - Friend of POTUS and Former Senator Wallace Bennet

6510  
ERIC

✓ National Committee Man Jack Roberts ← (801) 355-7950

✓ National Committee Woman Zenda Hall--ill, may not be there (801) 582-8261

✓ Senators Jake Garn, Orrin Hatch <sup>& Kathleen</sup> ~~Hatch~~ <sup>will attend</sup> pending hearings <sup>per Peter Press Sec.</sup> <sup>801 625-5677</sup> <sup>Jenks</sup> devasted / she can't / see you

✓ Congressman <sup>Jim</sup> Hansen . 225-0453 / <sup>Pronounced long o</sup> 801 625-5677

Robin

✓ Gov. Bangert & Colleen (801) 538-1000 <sup>State Party Chairman</sup>

✓ Bruce Hough, Director of the (Huff)

Vice Pres. Delonne Anderson <sup>Emb</sup> 298-4000 <sup>Rufus</sup>

Memo <sup>Gern</sup> Emb 647-4000

<sup>1rst</sup> Ambassador to U.S. 647-2155 <sup>Germany Desk</sup>

Joe Skinner

Sen Bennet is ill in hospital.

Robert M. Kimmitt  
Holly Jean

Dick

Acknowledgements for Utah

- Gov. Norm Bangerter and wife Colleen
- Senator Jake Garn and wife Kathleen
- Senator Orrin Hatch (if Thomas hearings are cancelled for that day due to Jewish holiday), wife will not attend
- Congressman Jim Hansen
- Bruce Hough [Huff], State Party Chairman
- National Committee Man Jack Roberts
- Bush-Quayle Chairperson Bonnie Stevens (will greet him at airport and be at dinner)
- National Committee Woman Zenda Hall ( as of 9/16--will probably not be there; she was in a car accident and hurt her back; she's "absolutely devastated" that she's going to miss it; she's going to see if her doctor can do anything for the pain so that she could go)

*Former Senator Wallace Bennett & Friend of POTUS*

Changes  
per MMS  
Made 9/12

NASA  
ask Elizabeth

(Smith/Nix)  
September 11, 1991  
Draft One  
SCHOOL

PRESIDENTIAL REMARKS: TV SCHOOL  
NASA HEADQUARTERS  
TUESDAY, SEPT. 17, 1991  
2:40 P.M.

Maria Sheehan  
Media Relations

Tammy

Thank you, Admiral Truly, Charlie, and Terry. I was watching part of the program before we came in, and let me say how exciting I think the efforts of the SpaceMobile are to teach students about space and space exploration. / When I was a kid, we had some idols we thought were out of this world. With people like Charlie Bolden and Terry Jernigan -- they really are. //

453-8315

Maria Sheehan  
Med. Relations  
& Sue Richards  
NASA

It's also a privilege to be with so many fine students interested in learning about the future of space. And I especially want to salute the national winners of the Space Science Student Involvement Program who are in the studio with us. Their academic achievement deserves special recognition. //

Per Maria Sheehan Med. Relations

((You know, looking forward to today, for a new minutes I was a hero with one of my young grandkids. When I told her I was going to be on PBS, she thought I had finally made it to "Sesame Street.")) // television,

Kids won't know what PBS is?

As you begin the school year, think of what you can make of the future. You are the Class of the Year 2000. In NASA lingo, that's T minus 8 years, 3 months, and 13 days. // You -- the students of today -- will help keep America the world's leader. All of you can turn learning into an adventure. //

Sue Richards  
NASA

To do this you have to prepare not just by studying but by studying hard -- especially math and science. / That means doing what I too often failed to do -- your homework. It means setting goals -- both for you and for America. /

This is why our Administration and the Nation's Governors created six National Educational Goals -- one of which is to be first in the world in math and science. Together, you can help say of American education: "All systems are go." //

Ours is a changing world. Just think: Since I've been talking to you, we have traveled more than 67,500 miles through space -- nearly one <sup>quarter</sup> half the distance from the Earth to the moon.

// And even if you don't end <sup>up</sup> working in space, what you learn about math and science will help you for the rest of your life.

So do your best. Make America proud. Help achieve "a liftoff" to learning. Now, Charlie, I understand some students have questions that they would like to ask me. Before we go to those of you in Houston, let's first take a couple questions here at NASA headquarters. //

[[Two questions, THEN]]. Okay, let's go to Houston for a few more questions. //

[[Three questions, THEN]]. Well, I've got to get back to the White House now. To all of you, over and out, and best of luck in the upcoming year.

America 2000 Sourcebook & DOE

Sue Richards NASA

twice the circum?

? Terry Smollar NASA News

Pea Maya Sheehan Media Relations

The earth is spinning <sup>axis</sup> over 1,000 miles per hour

(45 min) Since the telecast began, the astronaut has <sup>to circle</sup> orbiting in <sup>discovery</sup> ~~space~~ have made complete orbit of earth. 12 hrs after his presentation

have traveled Terry half way around the Planet Earth or about 120,000 miles for me



National Aeronautics and  
Space Administration  
Washington, D.C.  
20546

*C- Here's some more NASA  
stuff.*

*— Michele*

Reply to Attn of: P

September 11, 1991

TO: Michele Nix and Maria Sheehan  
White House

*Bert Ulrich  
453-8315*

FROM: Sue Richard  
NASA *Sue*

Here are some tidbits that may be useful for the President:

- Today's 4th graders are the class of 2000. In NASA lingo that's T minus 8 years, 3 months and 13 days (on Sept. 17).
- The President could say "since this telecast began, the orbiting Shuttle astronauts (we launch on 9/12) have made one complete circle of the Earth (this happens every 45 minutes).
- One of the greatest realizations that has come from our explorations in space is that the quiet ground beneath our feet is actually the surface of a spinning planet speeding off through space...so he could say

Every one of us is an astronaut on Spaceship Earth. Each second that I speak with you, we will travel at least 375 miles (600 kilometers) through space...

That's because our planet orbits about the Sun...and the Sun is traveling within our Milkyway Galaxy...and our galaxy is spinning on its axis as it moves through the universe. In school, your mission is to prepare yourselves to become the crew of the great Spaceship Earth. Someday you will be in charge and you will have to take care of this spaceship so that we can continue on our exploration of the universe.

- Then, after 3 minutes of remarks, he could say: I have talked with you for about 3 minutes. During this time we astronauts have traveled more than 67,500 miles (108,000 kilometers) through space--nearly one half the distance from the Earth to the Moon.....
- Other phrases: "All systems are go" can be applied to America 2000, etc.
- "When you graduate from school, you will be DEPLOYED into careers."
- "Lift-off" to learning, etc.

*Sue's asst.  
Terry of NASA  
Similar News  
453-8400*

## America 2000

### America's Education Goals

*By the year 2000:*

1. All children in America will start school ready to learn.
2. The high school graduation rate will increase to at least 90 percent.
3. American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.
4. U.S. students will be first in the world in science and mathematics achievement.
5. Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.
6. Every school in America will be free of drugs and violence and will offer a disciplined environment conducive to learning.

The four-part AMERICA 2000 Education Strategy will enable us to achieve these goals.

To Michelle  
Date \_\_\_\_\_ Time 3:15

**WHILE YOU WERE OUT**

M. Kathy Hutchison  
of 213-247-1040

Phone \_\_\_\_\_  
Area Code \_\_\_\_\_ Number \_\_\_\_\_ Extension \_\_\_\_\_

TELEPHONED	<input checked="" type="checkbox"/>	PLEASE CALL	<input checked="" type="checkbox"/>
CALLED TO SEE YOU	<input type="checkbox"/>	WILL CALL AGAIN	<input type="checkbox"/>
WANTS TO SEE YOU	<input type="checkbox"/>	URGENT	<input type="checkbox"/>

RETURNED YOUR CALL

Message Senate Bennet  
ill in hospital

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Operator AG



AMPAD  
EFFICIENCY®

23-021

CARBONLESS

To Michele  
Date 9/16 Time 4:50

**WHILE YOU WERE OUT**

M. Kathy Hodgenson  
of \_\_\_\_\_

Phone \_\_\_\_\_  
Area Code Number Extension

TELEPHONED		PLEASE CALL	
CALLED TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		URGENT	

RETURNED YOUR CALL

Message \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Anne  
Operator

Mary Kate —

Done 9/14

Additional acknowledgements for Utah:

- Secretary Skinner

To mention:

Friend of POTUS and former Sen. Wallace Bennet is ill in hospital and will not attend.

MK— Kathy Hutchinson in Pol'l Affairs called to add names for the Utah Fundraiser. Christina said to let you know so that you can add them when you make your other changes.

Thanks,  
Michele

NASA TeleConference

Tue 17th 7250

Curt

Tomorrow Tomorrow

Utah  
OMB  
x 7250

Maria  
x 7150  
Media Affairs

Pete  
x 395-  
4926

9 Part talk to  
Curt

Richard  
Matt  
395-4686

Michael  
Jackson  
Dept of  
Educ. 401-3022

1  
GOP

Bonnie  
Stevens  
Speech

Bush-Quayle

Jack Roberts  
Tommy  
Wallace  
Bennet

Zenda Hall

Hatch  
Kain

Hanson  
Cing

33-051 CARBONLESS

EFFICIENT

(Smith/Nix)  
September 13, 1991  
Draft Three  
SCHOOL

PRESIDENTIAL REMARKS: TV SCHOOL  
NASA HEADQUARTERS  
TUESDAY, SEPT. 17, 1991  
2:40 P.M.

Thank you, Admiral Truly, Charlie, and Lisa. I was watching part of the program before we came in, and let me say how exciting I think the efforts of the Spacemobilers and astronauts are to teach students about space and space exploration. / When I was a kid, we had some idols we thought were out of this world. With people like Charlie Bolden and Tammy Jernigan -- they really are. //

It's also a privilege to be with so many fine students interested in learning about the future of space. And I especially want to salute the national winners of the Space Science Student Involvement Program who are in the studio with us. Their academic achievement deserves special recognition. //

((You know, looking forward to today, for a few minutes I was a hero with one of my young grandkids. When I told her I was going to be on television, she thought I had finally made it to "Sesame Street.")) //

As you begin the school year, think of what you can make of the future. Many of you are the Class of the Year 2000. In NASA lingo, that's T minus 8 years, 3 months, and 13 days. // You -- the students of today -- will help keep America the world's leader. All of you can turn learning into an adventure. //

To do this you have to prepare not just by studying but by studying hard -- especially math and science. / That means doing what I too often failed to do -- homework. It means setting goals -- both for you and for America. /

This is why our Administration and the Nation's Governors created six National Educational Goals -- one of which is to be first in the world in math and science. Together, you can help say of American education: "All systems are go." //

Ours is a changing world. Just think: Since I've been talking to you, we have traveled more than 67,500 miles through space -- nearly one quarter the distance from the Earth to the moon. // And since this telecast began, the astronauts orbiting in the Space Shuttle Discovery have traveled half way around the planet Earth -- about 12,000 miles. And even if you don't end up working in space, what you learn about math and science and all the rest of the subjects you study will help you for the rest of your life.

So do your best. Make America proud. Help achieve "a liftoff" to learning. Now, Charlie, I understand some students have questions that they would like to ask me.

# # # #

THE WHITE HOUSE  
WASHINGTON

(Smith/Nix)  
September 13, 1991  
Draft Three  
SCHOOL

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NASA HEADQUARTERS  
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Changes on  
2<sup>nd</sup> Page

(Smith/Nix)  
September 11, 1991  
Draft One  
SCHOOL

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NASA HEADQUARTERS  
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2:40 P.M.

Thank you, Admiral Truly, Charlie, and <sup>Lisa</sup>~~Tammy~~. I was watching part of the program before we came in, and let me say how exciting I think the efforts of the ~~SpaceMobile~~<sup>rs and astronauts</sup> are to teach students about space and space exploration. / When I was a kid, we had some idols we thought were out of this world. With people like Charlie Bolden and Tammy Jernigan -- they really are. //

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C — NASA called  
Burt in Med Relations  
Wanted a change  
like this.

— Michele

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[[Two questions, THEN]]. Okay, let's go to Houston for a few more questions. //

[[Three questions, THEN]]. Well, I've got to get back to the White House now. To all of you, over and out, and best of luck in the upcoming year.

o o o o

And Since the telecast began, the astronauts orbiting in the spaceship Discovery have travelled half way around the planet Earth — about 12,000 miles.

(The distance they travel every 45 minutes.)

THE WHITE HOUSE

WASHINGTON

(Smith/Nix)  
September 11, 1991  
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THE WHITE HOUSE

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# # # #

To Michelle  
Date 9/12 Time 8:40

**WHILE YOU WERE OUT**

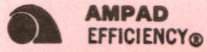
M Sue Richard  
of NASA Terry  
453  
Phone 453-9364 8100  
Area Code Number Extension

TELEPHONED	<input checked="" type="checkbox"/>	PLEASE CALL	
CALLED TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		URGENT	

RETURNED YOUR CALL

wanted to  
Message make sure you got  
fax - she'll be in the  
office until 11:30 if you  
need anything

Operator



23-021 CARBONLESS

To Michelle  
Date 9/12 Time 11:20

**WHILE YOU WERE OUT**

M. Kristin Gear  
of media affairs  
Phone 2483

Area Code	Number	Extension
TELEPHONED	<input checked="" type="checkbox"/>	PLEASE CALL <input checked="" type="checkbox"/>
CALLED TO SEE YOU	<input type="checkbox"/>	WILL CALL AGAIN <input type="checkbox"/>
WANTS TO SEE YOU	<input type="checkbox"/>	URGENT <input type="checkbox"/>

RETURNED YOUR CALL

Message NASA  
Get NASA draft  
to Kristin.  
Done  
tc 9/2  
Operator

September 11, 1991

**MEMORANDUM FOR CURT SMITH**

**FROM: MICHELE NIX**  
**SUBJECT: NASA TELECONFERENCE**

On Tuesday, Sept. 17, the President will participate in a teleconference with Admiral Richard Truly and schoolchildren from both the NASA area and Texas. The teleconference will be broadcast on NASA Select TV. The format will include: opening remarks by the President and then a question-and-answer session between the president, Truly and the schoolchildren. **The general purpose of the opening remarks is to stress the importance of science in education and to highlight the President's America 2000 plan.**

Burt Ulrich from Media Relations has gathered most of the pertinent information for this event. He's also a NASA intern. He will be receiving a draft of the opening remarks from Education later in the day.

**Some Talking Points about America 2000:**

- Goals (see attached)
- There's four strategies of America 2000
  - For today's students, improve today's schools, all 110,000 of them--make them better and more accountable for results.
  - For tomorrow's students, invent a new generation of American schools, bringing in at least 535 of them into existence by 1996 and thousands by decade's end.
  - For those out of school and in the workplace--encourage a learning environment--becoming a nation of students not a nation at risk.
  - For schools to succeed--look beyond the classrooms to communities and families, encouraging sound American values--family, parental responsibility, the communitywide caring of churches, civic organizations, business, labor and media.

*Draft from DOE*

Thanks Admiral Truly, Charlie, and Lisa. I was watching part of the program before we came in, and let me just say how exciting I think the efforts of the SpaceMobile are to teach our children about space and space exploration. It's also a privilege to be with so many fine students interested in learning about the future of space. And I especially want to congratulate the national winners of the Space Science Student Involvement Program who are in the studio with us today. That kind of academic achievement deserves special recognition and sets a good example for all students in school.

As you begin the school year, I want you to remember that what you learn in school today and the rest of the school year is important for your future and the country's future. You—the students of today—are the thinkers and leaders of tomorrow. You are the people who will help keep America a world leader, not only in space exploration but in many other scientific and technical fields. Some of you will be the people who will design, guide, and fly the spacecraft of the future to help us learn more about the universe we live in. All of you can turn learning into an adventure.

But to make this possible you have to prepare yourselves not just by studying but by studying hard, especially math and science. We all know that we have to practice if you want to be good at a sport. The same is true of science and math.

It's not enough to just practice, however. Just as you must study the right things like science and math, it is also important to set goals for yourselves. Goals are like targets, because they give us something to aim for. Decide what you want to excel at and then aim for it.

If our nation is to achieve, it too must have goals, and that is why the governors and I agreed to the six National Education Goals, one of which is to be first in the world in math and science. And we now have a national education strategy—AMERICA 2000—to help us reach our national goals.

We can't reach these goals unless you help us. Make it your own goal to be the best you can be at what you study. If you all do that and reach your personal goals, we will be able to achieve the national goals.

And even if you don't end up working in space, what you learn about math and science will help you for the rest of your life. Nearly anything you will want to do in the future will involve math and science. Computers, bridges, skateboards, buildings, basketball shoes, airplanes, and cars all have one thing in common: someone who knew their math and science had to design them. Everything in our world—everything we use—has to be designed by someone. Maybe that could be you.

So do your best and make us all proud. I know you can do and achieve whatever you set your mind to. Now, Charlie, I understand some students have questions that they would like to ask me...

*Feltye Arsh*  
*401-3008 DOE*  
*Hymie Escalante*

# NASA HEADQUARTERS OFFICE OF PUBLIC AFFAIRS FACSIMILE COVER SHEET

DATE: 9-11-92

TO: Michelle Nix 456-6218

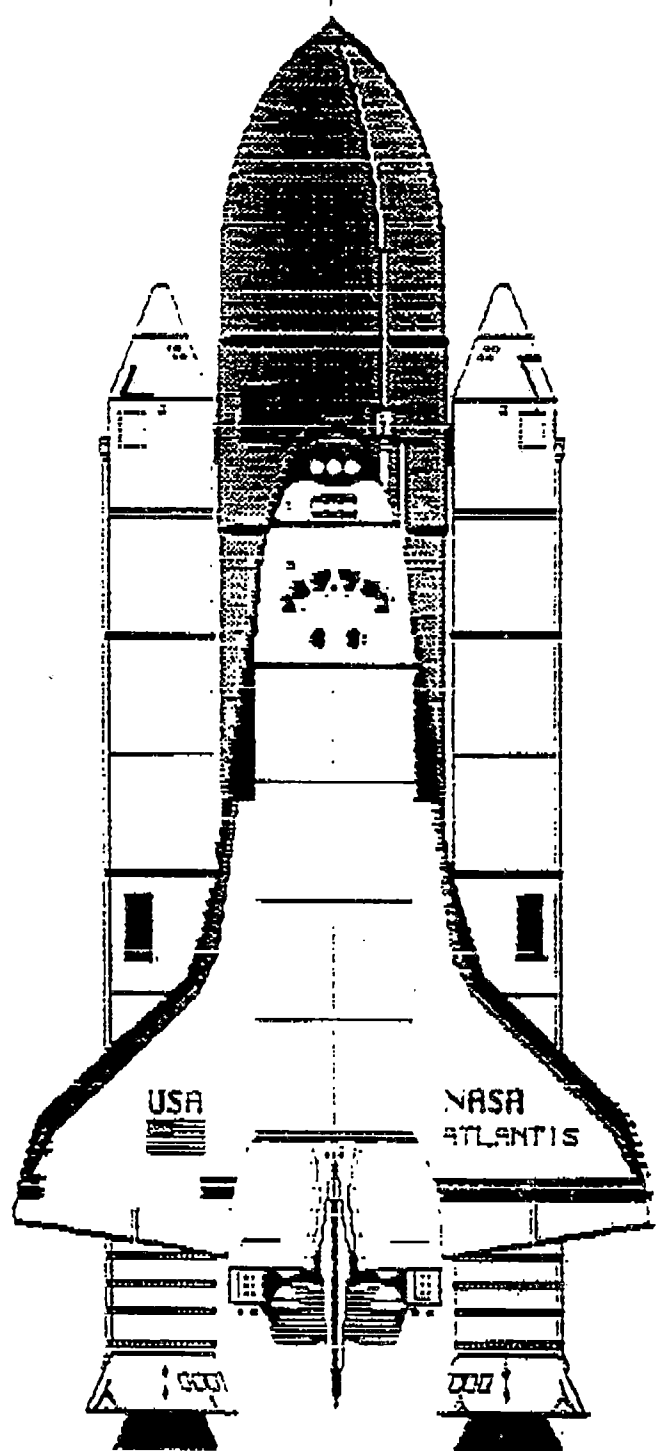
FROM: Sue Richard

TOTAL NUMBER OF PAGES  
INCLUDING COVER SHEET

2

INSTRUCTIONS: Hope this

helps!



ANY QUESTIONS, CALL (202)453-1898

September 11, 1991

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  - For today's students, improve today's schools, all 110,000 of them--make them better and more accountable for results.
  - For tomorrow's students, invent a new generation of American schools, bringing in at least 535 of them into existence by 1996 and thousands by decade's end.
  - For those out of school and in the workplace--encourage a learning environment--becoming a nation of students not a nation at risk.
  - For schools to succeed--look beyond the classrooms to communities and families, encouraging sound American values--family, parental responsibility, the communitywide caring of churches, civic organizations, business, labor and media.

I know how tough it is to be a parent these days, to keep a family together. ((Although I will say, I was a father who raised our kids using those three magic words: /// "Ask your mother."))

*Present based?*

We must preserve America's working families. Our child care bill provided <sup>34</sup>incentives for low- and middle-income parents to find the best child care for their needs -- because parents know **best** what kind of care their children need. They don't want their kids in some federal warehouse ... they want to have the option of having relatives look after them, or the local church, or the neighborhood center. **We're the party that put choice in the hands of parents.**

*From Utah Rep. Party Fundraiser Speech*

And we want choice in education as well. **We think students and parents -- not bureaucrats -- should choose which school is best for them. That's just one part of our education strategy called America 2000. Another of our goals is that by the year 2000, every child should arrive at school ready to learn. To do it, we're proposing increased funding for Head Start, good nutrition and health care programs, and most importantly, a helping hand for parents in the form of training and support.**

What happened to our education bill? ((Well, it's almost like Congress has been listening to that hit song by the group Alabama: "I Ain't Got No Business Doin' Business Today.")) Yes, our bill has been gathering dust for two years, hostage to the education lobby and the unions. I'll say it again: **We need choice in education. We need more Republicans. //**

September 11, 1991

**MEMORANDUM FOR CURT SMITH**

**FROM: MICHELE NIX**  
**SUBJECT: NASA TELECONFERENCE**

On Tuesday, Sept. 17, the President will participate in a teleconference with Admiral Richard Truly and schoolchildren from both the NASA area and Texas. The teleconference will be broadcast on NASA Select TV. The format will include: opening remarks by the President and then a question-and-answer session between the president, Truly and the schoolchildren. **The general purpose of the opening remarks is to stress the importance of science in education and to highlight the President's America 2000 plan.**

Burt Ulrich from Media Relations has gathered most of the pertinent information for this event. He's also a NASA intern. He will be receiving a draft of the opening remarks from Education later in the day.

Some Talking Points about America 2000:

- Goals (see attached)
- There's four strategies of America 2000
  - For today's students, improve today's schools, all 110,000 of them--make them better and more accountable for results.
  - For tomorrow's students, invent a new generation of American schools, bringing in at least 535 of them into existence by 1996 and thousands by decade's end.
  - For those out of school and in the workplace--encourage a learning environment--becoming a nation of students not a nation at risk.
  - For schools to succeed--look beyond the classrooms to communities and families, encouraging sound American values--family, parental responsibility, the communitywide caring of churches, civic organizations, business, labor and media.



They have reserved the PBS satellite from 11:30 to 5 p.m., with a built in window for a break from 2 to 3 p.m. We will literally come on between their sessions, inheriting these education leaders as part of our audience (a nice fringe benefit, I must say). Because of the large number of viewers interested (educators, school administrators, software equipment managers) they will gather at their local PBS stations to watch.

Our plan is to have each student prepare a question and submit it to their teacher. We will review them; choose them ahead of time, and rehearse the kids the morning of the show.

Other notes of interest: Lisa McLeod is considered our best spacemobile teacher. We have done a walk-thru with her, and I believe she'll be excellent. Also, Astronaut Charlie Bolden, known for his ability to work with kids, just happens to be Black--a fabulous role model.

As I said, I am very willing to come over for a meeting, or do a walk-thru here. Just let me know.

Thank you. I think this is going to be great



National Aeronautics and  
Space Administration

Washington, D.C.  
20546

F41

Reply to Attn of: P

August 27, 1991

TO: Joan Katz  
Michele Ward-Brent

FROM: Sue Richard  
~~NASA~~

SUBJECT: Bush Education Video Conference

Per our discussion, here is the information on our program.  
If you need more, please call. (202-453-8364)

Program name: "Launching the School Year with President Bush"

Live from Washington via NASA Select,  
President Bush joins NASA Administrator, Richard Truly,  
for a unique math and science lesson aimed at  
elementary level students. Third and fourth graders  
in Washington and Houston will ask the President  
questions and learn about living and working in space.  
Participants include astronauts Charlie Bolden and  
Tammy Jernigan, and "Spacemobile" teacher Lisa McLeod.

Date: September 17, 1991

Time: 2-3 p.m. Eastern

↑  
Program listing  
for PBS directory  
(aimed at getting  
teachers to tune-in)

**Announcing****A Back-to-School Special  
on NASA Select TV****"Launching the School Year  
with President Bush"**

Live from Washington via NASA Select\*, the television service of the National Aeronautics and Space Administration, President Bush joins NASA Administrator Richard Truly for a unique math and science lesson aimed at elementary level students. Third and fourth graders in Washington and La Porte, Texas, will ask the President questions and learn about living and working in space. Participants include astronauts Charlie Bolden and Tammy Jernigan, and Spacemobile teacher Lisa McLeod. In addition to NASA Select carrying the program, it will be broadcast on local PBS stations throughout the country.

**Date:** Tuesday, September 17, 1991

**Time:** 2:00 - 3:00 p.m. Eastern Daylight Time

\* NASA Select is transmitted on SciCom F2R, transponder 13, C Band, 72 degrees West Longitude, frequency 3954.5 MHz, vertical polarization, Audio on 6.8 MHz, or check with your local cable operator.



# NASA

**Select Television**  
*a new tool  
 for the classroom*

**Teachers**, you may not be familiar with the name, but you are familiar with the programming. Since the early 1980's, the NASA missions you watched via the networks – from lift-off to landing – originated on NASA Select TV. But now, in addition to live mission coverage, NASA Select offers informational and *educational programming* on space and related topics...programming aimed at inspiring young people to achieve, especially in mathematics and science.

Historical documentaries focusing on great moments in America's space program are featured, as well as recurring science as received from Galileo, Magellan, Ulysses, Hubble and other spacecraft. Updates on all of NASA's projects are offered in addition to the latest developments in space science.

Our programming starts at noon Eastern time, Monday through Friday, with **NASA Today**, featuring current news, and **Today in NASA History**, highlighting memorable events in aeronautics and space exploration. Programs are shown in four-hour blocks (repeated at 4 p.m., 8 p.m. and midnight), and while all programs have historical and educational value, the 2 p.m. (and 6 p.m., 10 p.m., and 2 a.m.) program is specifically designed for classroom use. These programs cover topics such as biology, geology, the atmospheric and earth sciences and math and engineering concepts. **Programs may be taped.**

[Please note: Live mission coverage and NASA press conferences do take precedence over regularly scheduled programming, so schedules are subject to change without prior notice.]

**If your school's cable TV system carries NASA Select, or if your school has access to a satellite dish, please check us out.**

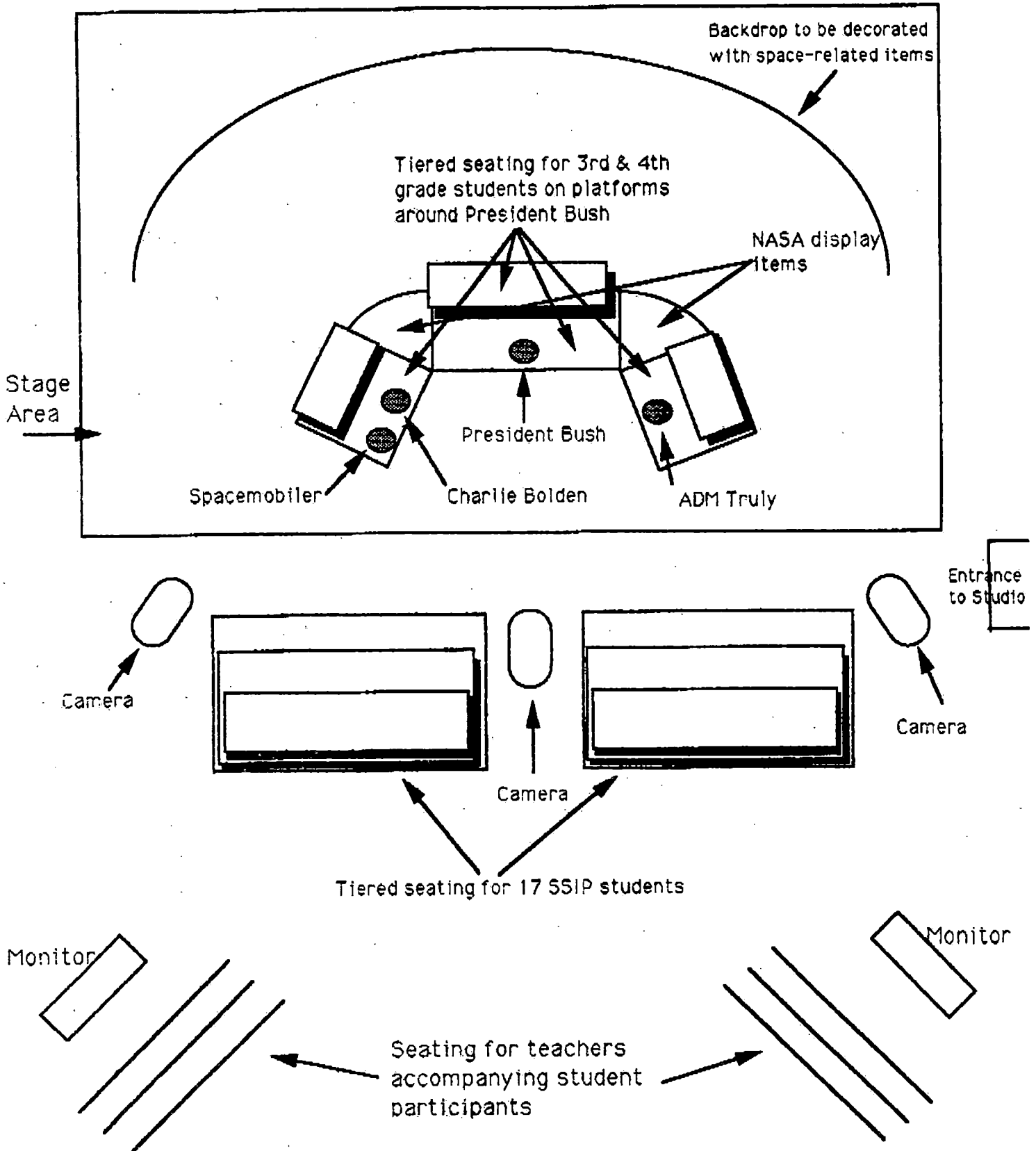
**If your local cable system doesn't carry NASA Select, please share this information with them and encourage them to do so.**

NASA Select is transmitted on  
 SatCom F2R  
 Transponder 13, C Band  
 72 Degrees West Longitude  
 Frequency 3954.5 MHz  
 Vertical Polarization  
 Audio on 6.8 MHz

For more information  
 please write or phone:

**NASA Select**  
 c/o Associate Administrator  
 for Public Affairs  
 NASA Headquarters / Code P  
 Washington, DC 20546  
 Phone: 202/453-8425

# Set Arrangement



# Biographical Data



Lyndon B. Johnson Space Center  
Houston, Texas 77058

National Aeronautics and  
Space Administration

**NAME:** Charles F. Bolden, Jr. (Colonel, USMC) *(to host program in D.C.)*  
NASA Astronaut

**BIRTHPLACE AND DATE:** Born August 19, 1946, in Columbia, South Carolina.  
His mother, Mrs. Ethel M. Bolden, resides in Columbia.

**PHYSICAL DESCRIPTION:** Black hair; brown eyes; height: 5 feet 7 inches; weight: 155 pounds.

**EDUCATION:** Graduated from C. A. Johnson High School in Columbia, South Carolina, in 1964; received a bachelor of science degree in Electrical Science from the United States Naval Academy in 1968 and a master of science in Systems Management from the University of Southern California in 1978.

**MARITAL STATUS:** Married to the former Alexis (Jackie) Walker of Columbia, South Carolina.

**CHILDREN:** Anthony Ché, June 9, 1971; Kelly M., March 17, 1976.

**RECREATIONAL INTERESTS:** He enjoys racquetball, running, soccer, swimming, and first day cover collecting.

**ORGANIZATIONS:** Member of the Marine Corps Association, the Montford Point Marine Association, the United States Naval Institute. Lifetime member of the Naval Academy Alumni Association, the University of Southern California General Alumni Association, and Omega Psi Phi Fraternity.

**SPECIAL HONORS:** Recipient of the Defense Superior Service Medal, the Air Medal, the Strike/Flight Medal (8th award), the University of Southern California (Ebonics Support Group) Outstanding Alumni Award (1982), National Technical Association Honorary Fellow (1983), Honorary Doctor of Science Degree from the University of South Carolina (1984), Honorary Doctor of Humane Letters from Winthrop College (1986), the NASA Exceptional Service Medal (1988), the University of Southern California Alumni Award of Merit (1989), and an Honorary Doctor of Humane Letters from Johnson C. Smith University (1990).

**EXPERIENCE:** Bolden accepted a commission as a second lieutenant in the U.S. Marine Corps following graduation from the United States Naval Academy in 1968. He underwent flight training at Pensacola, Florida, Meridian, Mississippi, and Kingsville, Texas, before being designated a naval aviator in May 1970. He flew more than 100 sorties into North and South Vietnam, Laos, and Cambodia, in the A-6A Intruder, while assigned to VMA(AW)-533 at Nam Phong, Thailand, June 1972- June 1973. Upon returning to the United States, Bolden began a two year tour as a Marine Corps officer selection officer and recruiting officer in Los Angeles, California, followed by three years in various assignments at the Marine Corps Air Station El Toro, California. In June 1979, he graduated from the U.S. Naval Test Pilot School at Patuxent River, Maryland, and was assigned to the Naval Air Test Center's Systems Engineering and Strike Aircraft Test Directorates. While there, he served as an ordnance test pilot and flew numerous test projects in the A-6E, EA-6B, and A-7C/E airplanes.

He has logged more than 5,000 hours flying time.

**NASA EXPERIENCE:** Selected by NASA in May 1980, Bolden became an astronaut in August 1981, qualified for assignment as a pilot on future Space Shuttle flight crews. His technical assignments to date include: Astronaut Office Safety Officer, Technical Assistant to the Director of Flight Crew Operations, Special Assistant to the Director of the Johnson Space Center, Astronaut Office Liaison to the Safety, Reliability and Quality Assurance Directorates of the Marshall Space Flight Center, and the Kennedy Space Center, Chief of the Safety Division at JSC, and Lead Astronaut for Vehicle Test and Checkout at the Kennedy Space Center.

On his first mission Bolden was pilot on the crew of STS-61C which launched from the Kennedy Space Center, Florida, on January 12, 1986. During the 6 day flight of Columbia the crew deployed the SATCOM KU satellite

pg. 2 - Bolden Bio

and conducted experiments in astrophysics and materials processing. STS-61C made a successful night landing at Edwards Air Force Base, California, on January 18, 1986. With the completion of his first space flight Bolden logged 146 hours in space.

More recently, Bolden was pilot on the crew of STS-31, which launched aboard Space Shuttle Discovery, on April 24, 1990, from the Kennedy Space Center in Florida. During this 5 day mission, crewmembers deployed the Hubble Space Telescope, and conducted a variety of middeck experiments. They also utilized a variety of cameras, including both the IMAX in cabin and cargo bay cameras, for earth observations from their record setting altitude of 380 miles. Following 75 orbits of the earth in 121 hours, STS-31 Discovery landed at Edwards Air Force Base, California, on April 29, 1990.

With the completion of his second mission, Bolden has logged a total of 267 hours in space.

**CURRENT ASSIGNMENT:** Col. Bolden will command the crew of STS-45. The mission is scheduled for launch in April 1991, aboard the Space Shuttle Columbia, and will be dedicated to studying atmospheric phenomena.

JUNE 1990

# Biographical Data

**NASA**

Lyndon B. Johnson Space Center  
Houston, Texas 77058

National Aeronautics and  
Space Administration

**NAME:** Tamara E. Jernigan (Ph.D.)  
NASA Astronaut

*(To host student in Houston)*

**BIRTHPLACE AND DATE:** Born May 7, 1959, in Chattanooga, Tennessee. Her father, Mr. Terry L. Jernigan, resides in Chattanooga, Tennessee. Her mother, Mrs. Mary P. Jernigan, resides in Santa Fe Springs, California.

**PHYSICAL DESCRIPTION:** Brown hair; blue eyes; height: 5 feet 6 inches; weight: 125 pounds.

**EDUCATION:** Graduated from Santa Fe High School, Santa Fe Springs, California, in 1977; received a bachelor of science degree in Physics (with honors), and a master of science degree in Engineering Science, from Stanford University in 1981 and 1983, a master of science degree in Astronomy from the University of California-Berkeley in 1985, and a doctorate in Space Physics and Astronomy from Rice University in 1988.

**MARITAL STATUS:** Single.

**RECREATIONAL INTERESTS:** She enjoys volleyball, racquetball, tennis, softball, and flying. As an undergraduate, she competed in intercollegiate athletics on Stanford's varsity volleyball team.

**ORGANIZATIONS:** Member of the American Astronomical Association, the American Physical Society, and the United States Volleyball Association.

**EXPERIENCE:** After graduating from Stanford University, Jernigan worked in the Theoretical Studies Branch at NASA Ames Research Center from June 1981 until July 1985. Her research interests have included the study of bipolar outflows in regions of star formation, gamma ray bursters, and shock wave phenomena in the interstellar medium.

**NASA EXPERIENCE:** Selected as an astronaut candidate by NASA in June 1985, Dr. Jernigan became an astronaut in July 1986. Her technical assignments have included software verification in the Shuttle Avionics Integration Laboratory (SAIL), and operations coordination on secondary payloads. In addition, she worked in Mission Control as a CAPCOM for STS-30, STS-28, STS-34, STS-33, and STS-32.

**CURRENT ASSIGNMENT:** Dr. Jernigan is in flight training as a mission specialist on the crew of STS-40, scheduled for launch on the Orbiter Columbia in the Winter of 1990. This will be a dedicated life and space sciences mission during which crew members will conduct more than two dozen life sciences investigations in the microgravity environment.

JUNE 1990

# NASA Facts

National Aeronautics and  
Space Administration

Washington, D.C. 20546  
AC 202 453-8400

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## *"Spacemobile"*

The Aerospace Education Services Program, nicknamed "*Spacemobile*," continues to be one of NASA's oldest and most effective educational outreach programs. There are 35 professional aerospace educators who spend half a year on the road, logging as much as 40,000 miles annually, bringing the nation's aviation and space program to thousands of schools and universities throughout the United States.

Since its inception in 1961, Spacemobilers have reached more than 57 million students with their live presentations, and millions more through television. In addition, more than 400,000 teachers have participated in the lectures and workshops.

Spacemobiles are specialized vans packed with spacecraft models, literature, lessons, space artifacts, slides and videos, and a multitude of teaching aids. Students are active participants during the demonstrations - they try on spacesuits, spin to modify centrifugal forces...

Spacemobilers are special teachers. A typical morning begins with unloading 1,000 to 1,500 pounds of equipment to set an assembly stage with gee-whiz demonstrations: satellite communications, solar power, gravity and orbital mechanics, spacesuits, principles of flight, and whatever is most interesting and exciting to the students. Students are active participants in the Spacemobile presentation, trying on spacesuits, torching a Shuttle heat-shield tile, and spinning to demonstrate centrifugal forces.

After the assembly program, the Spacemobiler visits a few classrooms and lectures about a specific subject, such as, a slide show through the Solar System, living and working in space, Space Station Freedom, lunar outposts and Mars bases.

Spacemobile is an immensely popular program with schools waiting as long as three years for a visit. To help meet the demand, NASA's field centers have increased and extended the specialists' schedules. A long-term goal is to expand the program and have a Spacemobiler for every state.

In an increasingly sophisticated technological world, a sound knowledge of math and science is essential. NASA is committed to bringing the excitement of aviation and space to the classroom to spark students' interest in studying math and science. And who knows, maybe we can spark a lifelong interest - and career - in space, as we did with Astronaut Jerome Apt after he saw a Spacemobile program as a student in the early 1960's.

Today's students who enter the math, science and technology pipeline will be the generation who transform America's great new adventure in space exploration into a reality. They will be the first colonists of the Moon and the first Martians.

- end -

August 22, 1991

~~classroom by APT. He said, "I'm interested in science. And who knows, maybe we~~  
can spark a lifelong interest - and career - in space, as we did with Astronaut Jerome Apt after he saw a Spacemobile program as a student in the early 1960's.

Today's students who enter the math, science and technology pipeline will be the generation who transform America's great new adventure in space exploration into a reality. They will be the first colonists of the Moon and the first Martians.

- end -

August 22, 1991

# NASA Facts

National Aeronautics and  
Space Administration

Washington, D.C. 20546  
AC 202 453-8400

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## REACH FOR THE STARS THROUGH NASA'S *SPACE SCIENCE STUDENT INVOLVEMENT PROGRAM*

From 1980 to 1986, the SSIP program (then called Space Shuttle Student Involvement Program) provided secondary students the opportunity to design, compete and fly payload experiments onboard the Shuttle. To date, 22 student experiments have flown. Due to limited new opportunities to fly student experiments, the competition was redesigned and expanded in 1986.

The new program, Space Science Student Involvement Program (still SSIP) allows students to design aerospace science experiments that theoretically could be conducted in environments other than the Shuttle, such as Space Station Freedom or wind tunnels. The new SSIP also was expanded to include students competing in art and journalism competitions, as well as designing the "architecture" for a Moon base and a manned Mars colony.

Since 1980, U.S. students have been reaching for the stars through NASA's SSIP with the cooperation of the National Science Teachers Association. Over 1 million students use the materials in classrooms and over 15,000 students have submitted proposals.

When students enter SSIP competitions they exercise problem-solving, analytical and creative skills. By submitting their entries, students and their teacher/advisor chance winning certificates, scholarships and expense-paid trips to NASA installations.

The teacher's guide describes each competition, entry guidelines, instructions for writing proposals, applications, explanation of judging criteria and possible awards.

### ***SSIP Student Competitions***

Junior high and middle school students, in competition categories grades 6-8 and 9-12, are eligible to enter the following:

#### ***A) Space Station Proposal***

Students work individually, or in teams of up to five, to propose experiments that theoretically could be performed on Space Station. Proposals should have unique value and application to space, such as use of space telescopes, physics experiments, human health, computer-staged events or botany. Automated or remote-controlled experiments also may be included. Experiments do not need to be constructed or performed by the student.

#### ***B) Mars Settlement Illustration***

Students research and illustrate their concept of the first human settlement on Mars.

- more -

- 2 -

**C) School Newspaper Promotion**

Students demonstrate journalistic skills by writing: a) an article about space science, and/or b) an advertisement about the SSIP.

**D) National Aerospace Internships**

These competitions provide students the opportunity to propose experiments that theoretically could be performed in the 30' X 60' Wind Tunnel at NASA's Langley Research Center or the Zero Gravity Research Facility at NASA's Lewis Research Center.

Additionally, students in grades 6-8 compete to develop a Lunar outpost scenario in the *Moon Base* project. Students work individually, or in teams of up to three, to describe how people could live and work on a moon base. The students address how food, transportation, and human health could be ensured, and what research or other activities could be performed on a moon base.

A program where high school students design a mission to Mars is being piloted in many states in nation. In the *Destination: Mars* competition students work individually, or in teams of up to five, to design and plan the first permanently manned colony on Mars. The proposal consists of three parts: societal elements (international cooperation, financing, crew composition), engineering plan (habitat structure, human support systems, power sources, waste and water management), and scientific purpose and results (human effects and environmental research).

SSIP is approved by the National Association of Secondary School Principals.

- end -

July 30, 1991

## ***Space Science Student Involvement Program National Winners***

### ***Students***

#### ***Space Station Proposal:***

Vanessa W. Liu  
 Paul J. Dulick  
 Christine C. Kuth  
 Richard O. Gregory  
 Jason P. Shields  
 Pablo Lizarraga  
 Maneesh Sharma  
 Adam J. Bloom

### ***Teachers***

Bert Beiderman  
 Judith Lachvayder-Frazier  
 Ellen Elliot  
 Carol Denicole  
 Rick Gould  
 Thomas Grgurich  
 Peter Vasek  
 Edward Johnson

### ***Hometown***

New York City  
 Parma, Ohio  
 Durham, N.C.  
 Orlando, Fla.  
 Lenexa, Kan.  
 Los Angeles  
 Laramie, Wyo.  
 Silver Spring, Md.

#### ***Newspaper Promotion Contest***

Keith Pieper  
 Melissa A. Petruska

Susan Koba  
 Rosemary Simpson

Omaha, Neb.  
 Allentown, Penn.

#### ***Mars Settlement Art Contest***

Gregory D. Stevens  
 Tommy Ng

Richard Valencia  
 Brian Gerber

Diamond Bar, Calif.  
 Maracaibo Venezuela/Miami,

#### ***Moon Base Project (Junior High School Competition)***

Steven D. Roberts

Susanne Chinouth

Johnson City, Tenn.

#### ***Destination: Mars Team Contest***

Lee French  
 Timothy Kieschnick  
 Jason Korb  
 Zane Rhodes

Phyllis Simmonds

Giddings, Texas

(FYI)

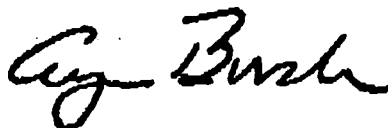
THE WHITE HOUSE  
WASHINGTON

September 12, 1989

It gives me great pleasure to offer my warmest greetings and congratulations to the 12 winners of the 1989 Science Student Involvement Program as you gather in our Nation's Capital for the Space Symposium.

Programs such as SSIP are vital to our efforts to give our young people the knowledge and skills necessary to be successful in our increasingly competitive world. By stretching your imaginations and flexing your intellectual muscles, you 1989 SSIP winners have already demonstrated your commitment to working toward reaching your full potential. I commend each of you for your hard work in pursuit of advanced education, and I also commend the national Aeronautics and Space Administration and the National Science Teachers Association for their ongoing efforts to promote excellence in scientific education.

Barbara joins me in sending best wishes for a most enjoyable and productive symposium. God bless you.



# NASA Select

## The Television Service

of the

## National Aeronautics and Space Administration

You may not be familiar with the name, but you are familiar with the programming. Since the early 1980's, the NASA missions you watched via the networks - from lift-off to landing - originated on NASA Select.

In addition to live mission coverage, NASA Select offers informational and educational programming on space and related topics.

Historical documentaries focusing on great moments in America's space program are featured, as well as recurring science as received from Galileo, Magellan, Ulysses, Hubble and other spacecraft. Updates on all of NASA's projects are offered to keep you informed about the agency and the latest developments in space science.

The programming starts at noon Eastern time, Monday through Friday, and is shown in four-hour blocks (repeated at 4 p.m., 8 p.m. and midnight). Live programs such as press conferences and mission coverage take precedence over regularly scheduled programming.

Although all programs have historical and educational value, the 2 p.m. (and 6 p.m., 10 p.m., and 2 a.m.) program contains **EDUCATIONAL MATERIAL SPECIFICALLY SUITABLE FOR CLASSROOM USE**. Other **EDUCATIONAL PROGRAMMING** is shown as available.

**If your cable TV system carries NASA Select, or if you have access to a satellite dish, CHECK US OUT.**

**If your local cable system doesn't carry NASA Select, please share this information with them and encourage them to do so!**

**NASA Select is transmitted on:**

**SatCom F2R**

**Transponder 13, C Band**

**72 Degrees West Longitude**

**Frequency 3954.5 MHz Vertical Polarization**

**Audio on 6.8 MHz**



**For more information please write or phone:**

**NASA Select**

**c/o Associate Administrator for Public Affairs**

**NASA Headquarters / Code P**

**Washington, DC 20546**

**Phone: 202/453-8425**

# Kearns To Drive Reform with Technology

By Lucy Reilly  
SENIOR STAFF WRITER

When former Xerox Chairman David Kearns was an idealistic college student seeking to change the world, the analogy was made that he was out to discover a horse half as big as the standard breed that was twice as strong and ate half as much.

"But David," observed his college roommate one night, "you forgot about the tractor."

Kearns, the newly appointed deputy secretary of the Department of Education, does not intend to let that lesson escape him. Last week, Kearns told the House Science subcommittee on technology and competitiveness that he intends to incorporate technology to its fullest in the restructuring of the nation's education system.

"It's clear that if we're going to be the best in the world, then we're going to have to invest in technologies," Kearns said. "We really have to think very differently when we look to the next century. Application of technology is absolutely key."

The tool of change as proposed by President Bush calls for the creation of a \$200 million, nonprofit, private organization to establish three to seven research and

development teams to invent the next-generation school. In the administration's America 2000 strategy, Bush proposed a new generation of American schools not bound by traditional education assumptions.

The organization proposes to award R&D contracts to further already ongoing work and jumpstart national reform. The private organization would work closely with the federal government to coordinate a national strategy and, in the long term, improve the skills of the U.S. workforce. The plan calls for input at the federal, state and local government level, as well as from corporate America.

"They truly will be breaking the mold of schools as we now know them," Kearns testified. "We must make a break from the past, to take a fresh look at learning."

However, Kearns noted that technologies used in the education system have had a far weaker impact than had been anticipated by both the government and educators. Access to technology, particularly computers, does not ensure that they will be effectively used or successful. Teachers will and must continue to play a strong role in education, he said.

"Technology will not, of course, substitute for effective teaching. But it could

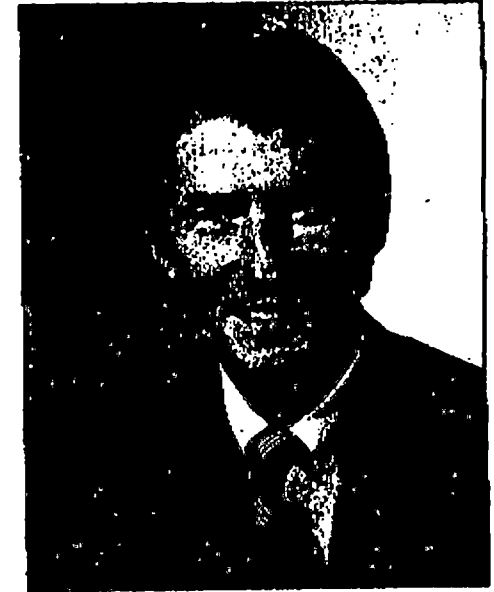
provide tremendous help to teachers in tailoring instruction to the needs and talents of individual students," he said.

Despite the wide-scale introduction of technology into the classroom, subcommittee member Rep. Connie Morella, R-Md., urged that the interpersonal student/teacher relationship not be forgotten. "[Teachers] must touch the student," she said at the hearing.

The nation must do two things in order to inculcate the changes necessary for a successful education system, Kearns told the subcommittee: support systemic changes, including shortening the summer break from three months to one month; and divide the states up among major U.S. corporations for future funding purposes.

"We're the only industrialized nation in the world that stops for three months," Kearns said. "It makes absolutely no sense at all." Moreover, he said public/private efforts should be more than a "feel-good partnership that doesn't do much but shore up the old system."

Kearns, who is credited with taking Xerox from the depths and restoring it to a position of world dominance through the application of total quality principles, said the greatest obstacle in U.S. education is the "leadership issue."



Education's David Kearns

He noted that recent polls state that only about 15 percent of the nation's population perceive there is a problem with the education system. "That's what the resistance is." Kearns sees his new job as one of convincing the nation of the severity of the problem and together resolving it with applicable immediate and long-term solutions.

His aim? To create a "uniquely American" school system that is nothing short of "the best in the world. . . I'm going to keep pounding away at that," he said. ♦

Washington Technology, June 27, 1991

\* NASA Select fits into this category!

# SPACE SCIENCE STUDENT INVOLVEMENT PROGRAM

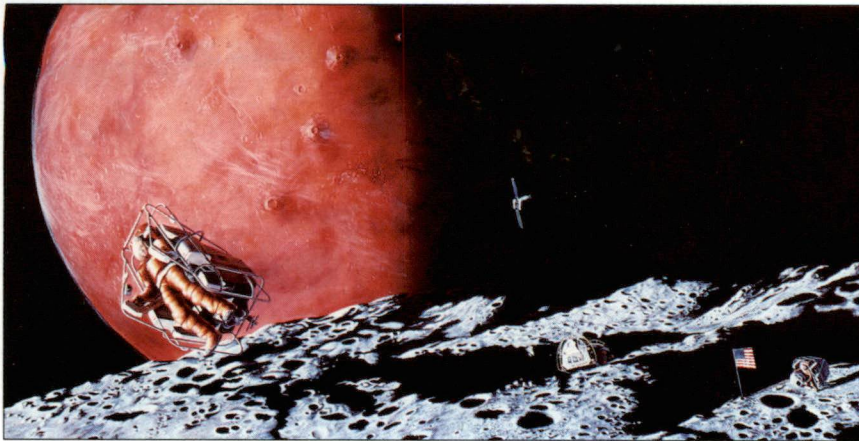


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Washington, DC

## REACH FOR THE STARS WITH SSIP!

ATTENTION: STUDENTS & TEACHERS, GRADES 9-12!



**PHOTO:** Two astronauts explore the rugged face of Phobos. Mars, as it would appear to the human eye from Phobos, looms on the horizon.

Illustration from *Beyond Earth's Boundaries — Human Exploration of the Solar System in the 21st Century*  
NASA Photo No. 88-11C-522

## SPACE SCIENCE STUDENT INVOLVEMENT PROGRAM FOR SENIOR HIGH SCHOOL STUDENTS

*Sponsored by the National Aeronautics and Space Administration (NASA) and the  
Space, Science, & Technology Division of National Science Teachers Association (NSTA-SST)  
Approved by the National Association of Secondary School Principals (NASSP)*

1990 — 91 SPACE SCIENCE STUDENT INVOLVEMENT PROGRAM  
**ENTRY FORM FOR ALL CONTESTS**

**No entry for any SSIP contest will be accepted without this entry form**

**CONTEST**

- Space Station Proposal Contest  
 School Newspaper Promotion Contest:  News/Feature Article  Advertisement  
 Mars Settlement Art Contest:  General Illustration  Diagram/Schematic  
 Wind Tunnel Research Contest  Drop Tube Research Contest  Supercomputer Research Contest

Project Title \_\_\_\_\_

Brief Description \_\_\_\_\_

Grade Level 9  10  11  12

I certify that the attached entry in the 1990 -91 NASA/NSTA Space Science Student Involvement Program is the original work of the student named below.

Student Signature \_\_\_\_\_

Teacher Signature \_\_\_\_\_

**STUDENT INFORMATION**

Last Name \_\_\_\_\_ First Name \_\_\_\_\_ MI \_\_\_\_\_

Home Address: Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone ( ) \_\_\_\_\_

Race: Caucasian  Black  Hispanic  Native American  Asian  Other

Sex: Male  Female

**TEACHER INFORMATION**

Last Name \_\_\_\_\_ First Name \_\_\_\_\_ MI \_\_\_\_\_

Home Address: Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Home Phone ( ) \_\_\_\_\_

**SCHOOL INFORMATION**

Name \_\_\_\_\_

School Address: Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

School Phone ( ) \_\_\_\_\_

Principal: First Name \_\_\_\_\_ Last Name \_\_\_\_\_

Superintendent: First Name \_\_\_\_\_ Last Name \_\_\_\_\_

# D. MARS SETTLEMENT ART CONTESTS

## 1. GENERAL ILLUSTRATION

Students use artistic skills to create an overall picture of a human settlement on Mars. The illustration must indicate life support systems, other primary systems (transportation, recreation etc.), interaction of humans with the martian environment and indicate why these humans are on Mars.

### GUIDELINES FOR GENERAL ILLUSTRATION

1. Entry must be 16"x20"; unframed; on art board or canvas board (*not* stretched canvas); in a medium suitable to two-dimensional work (ink, watercolor, pastels, acrylic, etc.); appropriately fixed and trimmed.
2. The entry must be accompanied by the entry form and two to five paragraphs, one page maximum, *typed* on a separate 8-1/2"x11" paper, describing how the student arrived at the illustration concept, justifying the settlement's design and features, and explaining the features of the work.
3. Entry and write-ups must be labeled on the back with the student's name, address, and telephone number.
4. Entry must be *student's original work*. No copyrighted comic and/or television characters can be used.
5. If a student wishes to have artwork returned, s/he must attach a check for the amount of the initial shipping cost to the cover sheet. Art will be held for up to one year maximum.

## 2. DIAGRAM/SCHEMATIC

Students use artistic skills to design a diagram or schematic of the technical features of a human settlement on Mars. Students label and identify the elements of life support, transportation, work methods, medicine, science, waste disposal, recreation, etc.

### GUIDELINES FOR DIAGRAM/SCHEMATIC

1. Entry must be 16"x20"; unframed; on art board or canvas board (*not* stretched canvas); in a medium suitable to two-dimensional work (ink, watercolor, pastels, acrylic, etc.); appropriately fixed and trimmed.
2. The entry must be accompanied by the entry form and two to five paragraphs, one page maximum, *typed* on a separate 8-1/2"x11" paper, describing how the student arrived at the diagram/schematic concept, justifying the settlement's design and features, and explaining the features of the work.
3. Entry and write-ups must be labeled on the back with the student's name, address, and telephone number.
4. Entry must be *student's original work*. No copyrighted comic and/or television characters can be used.
5. If a student wishes to have artwork returned, s/he must attach a check for the amount of the initial shipping cost to the cover sheet. Art will be held for up to one year maximum.

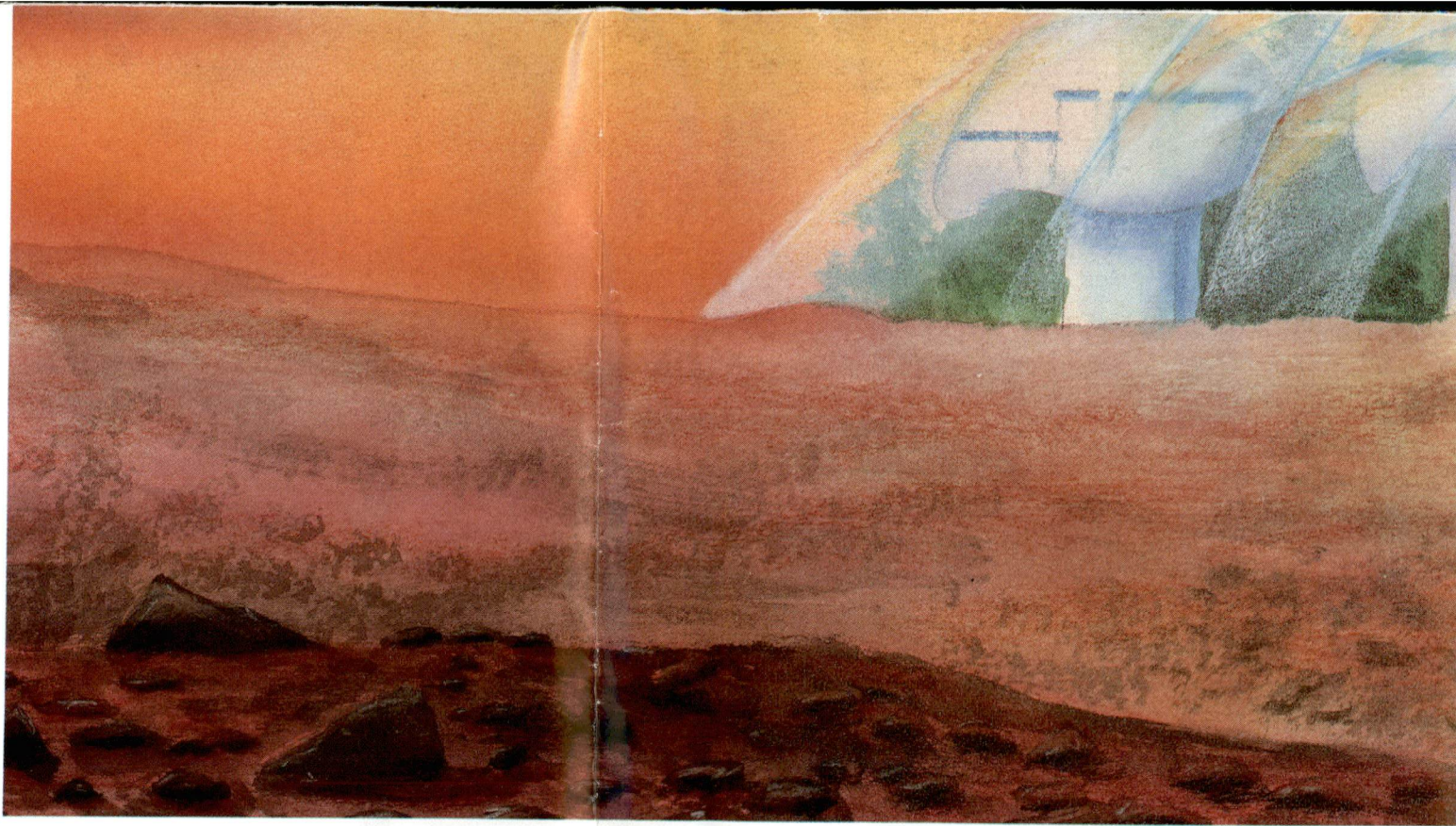
### JUDGING CRITERIA (55 POINTS)

- ◆ Craftsmanship, including composition, rendering, and skill with media (20 points)
- ◆ Originality of concept (10 points)
- ◆ Content of diagram or illustration (10 points)
- ◆ Content of support paragraphs (10 points)
- ◆ Attention to detail, neatness, clarity (5 points)

### AWARDS FOR THE MARS SETTLEMENT ART CONTESTS

- ◆ National winner receives a cash award; his/her teacher/advisor receives resource materials
- ◆ National winning entry and honorable mentions make up a travelling exhibit at museums and space centers nationwide
- ◆ Honorable mentions receive certificates of recognition
- ◆ All students who qualify receive certificates of participation





... and on

**NASA/NSTA** *Space Science S*  
Ask your science, journalism, or art

# C. SCHOOL NEWSPAPER PROMOTION CONTESTS

## 1. NEWS/FEATURE ARTICLE

Students work individually to write a news or feature article about an aspect of space or space science for their school newspaper.

### GUIDELINES FOR ARTICLE

1. All articles must be published in student's school newspaper by March 1, 1991.
2. Articles must be at least 150 words in length.
3. Entries will be judged on their own merit, not on the format or quality of the school newspaper.
4. Submit two (2) copies of the article and the issue of the paper in which it was published.

### JUDGING CRITERIA (65 POINTS)

- ◆Writing style (10 points)
- ◆Creative angle (10 points)
- ◆Interest to readers (10 points)
- ◆Accuracy (10 points)
- ◆Content (10 points)
- ◆Organization (10 points)
- ◆Layout and design, including headlines and illustrations, where appropriate (5 points)

## 2. ADVERTISEMENT

Students work individually to create an advertisement for the *Space Science Student Involvement Program* for their school newspaper. Ads should be designed to excite and interest students in the SSIP program.

### GUIDELINES FOR ADVERTISEMENT

1. All ads must be published in student's school newspaper by March 1, 1991.
2. Ads must be no smaller than 1/4 page and no larger than a full page of the school's newspaper.
3. Entries will be judged on their own merit, not on the format or quality of the school newspaper.
4. Submit two (2) copies of the advertisement and the issue of the paper in which it was published.

### JUDGING CRITERIA (45 POINTS)

- ◆Layout and design (15 points)
- ◆Accuracy (10 points)
- ◆Ability of copy to encourage participation in SSIP (10 points)
- ◆Execution and craftsmanship (10 points)

## AWARDS FOR THE NEWS/FEATURE ARTICLE AND ADVERTISEMENT CONTESTS

- ◆National winner receives a scholarship from the Student Space Science Foundation
- ◆National winner and teacher/advisor receive an engraved plaque and an expense-paid trip to the *National Space Science Symposium* and a one year subscription to USA TODAY
- ◆Honorable mentions receive certificates of recognition
- ◆All students who qualify receive certificates of participation
- ◆National winning Article and Advertisement may be used in the promotion of the SSIP program

# A. SPACE STATION PROPOSAL CONTEST

Students propose and write experiments that could theoretically be performed on a space station. Proposals should deal with living, working and experimenting in space, for example, use of space microscopes, human health, computer-staged events, physics, etc. Each proposal should include microgravity as its unique aspect.

Send entries to the appropriate Regional Director from the list (See "How to Enter"). Entries become the property of NASA-NSTA SSIP (See *Rules and Guidelines*).

*Entries must be postmarked by March 15, 1991.*

## AWARDS FOR SPACE STATION PROPOSAL CONTEST

- ◆ National winners are eligible to compete for *Student Space Science Foundation* Scholarships
- ◆ National winners and their teacher/advisors receive an engraved plaque and an expense-paid trip to the *National Space Science Symposium*
- ◆ Regional winners and their teacher/advisors receive a certificate and an expense-paid trip to a space science symposium at a NASA center
- ◆ Honorable Mentions receive plaques of recognition
- ◆ All students who qualify receive certificates of participation

## RULES AND GUIDELINES FOR SPACE STATION PROPOSAL CONTEST

1. Each proposal must be formatted exactly as follows:

- ◆ Entry Form
- ◆ Proposal title page
- ◆ Abstract -- a concise statement separate from text describing the overall proposal in 75 words or less
- ◆ Introduction
- ◆ Description of problem/hypothesis
- ◆ List of materials essential to experiment
- ◆ Procedures
- ◆ Analysis of data collected in experiment
- ◆ Reference bibliography

2. The body of the proposal may not exceed 1,000 words. All proposals must be typed, double-spaced, in black ink on white 8-1/2"x11" paper. Each page must be numbered. The student's name should appear *only* on the cover sheet. No reference to the student or location should appear in the proposal.

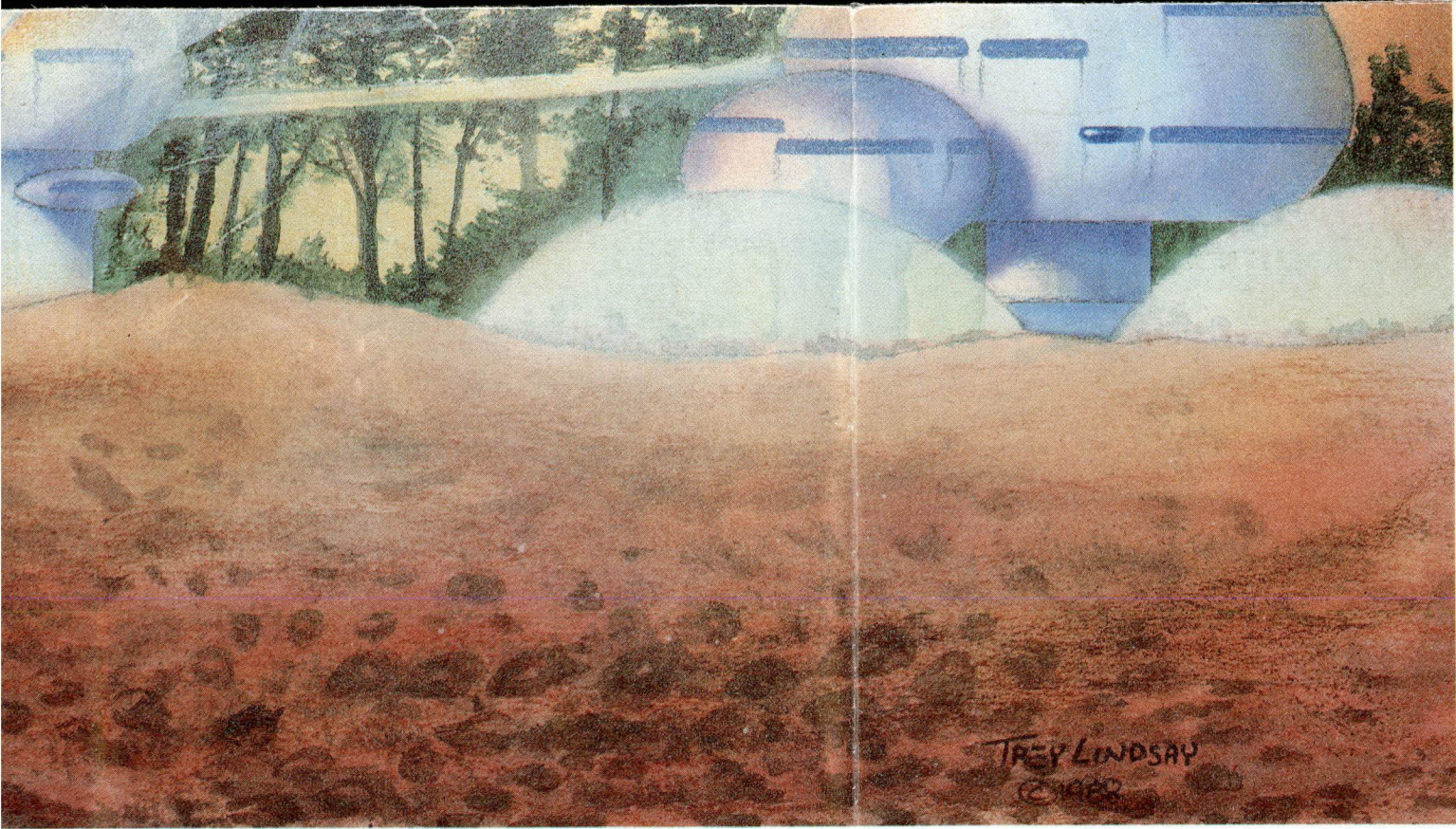
3. Proposed experiments must NOT REQUIRE open flames, toxic chemicals, tem-

perature extremes, high voltage discharge, or mammals (other than humans) as test subjects.

4. Although students are encouraged to participate in more than one contest, and to enter every year they are eligible, a student may not submit the same proposal more than once. National winners are not eligible to compete in the same contest again.

5. Judging Criteria for the Space Station Contest will be based on a total of 60 possible points:

- ◆ Scientific validity (10 points)
- ◆ Suitability to research facility and appropriate data handling (i.e., space station, wind tunnel, drop tube, supercomputer) (10 points)
- ◆ Creativity (10 points)
- ◆ Originality (10 points)
- ◆ Functional usefulness (10 points)
- ◆ Organization, clarity and appropriate references (10 points)



*Original Student Art by James G. Lindsay III*

*er to Mars.*

*udent Involvement Program*  
teacher for contest entry details



## B. NATIONAL AEROSPACE INTERNSHIP CONTESTS

### 1. SUPERCOMPUTER CONTEST

Students propose and write experiments that could theoretically be performed on a supercomputer facility similar to the Numerical Aerodynamic Simulation (NAS) computer at *NASA Ames Research Center* in Moffet Field, CA. The following are possible research areas. Parallel Computing to include: parallel architectures, computation algorithms, and languages. User Interfaces to include: user environment tailoring visualization, grid generation and result data analysis. Computing Systems Research to include: communications, storage, distributed processing, and data management. For brief background information, contact:

*Educational Programs Office Super Computer Internship Project  
MS TO25  
NASA Ames Research Center  
Moffet Field, CA 94035*

### 2. DROP TUBE RESEARCH CONTEST

Students propose and write experiments that could theoretically be performed in a zero gravity research facility such as *Lewis Research Center* in Cleveland, Ohio. The 145-meter facility supports research and development programs that investigate various physical sciences, materials, fluid physics and processing systems. Proposed experiments must be designed to be conducted in a cylindrical experiment capsule for a drop duration of up to 5 seconds. For brief background information, contact:  
*Educational Programs Office  
MS 7-4  
NASA Lewis Research Center  
Cleveland, OH 44135  
Attn: SSIP Internship*

### 3. WIND TUNNEL RESEARCH FACILITY CONTEST

Students propose and write experiments that could theoretically be performed in a wind tunnel testing facility such as *Langley Research Center* in Hampton, Virginia. The tunnel is 30 feet high and 60 feet wide, (9 meters by 18 meters), and is capable of generating wind speeds of up to 100 mph. For brief background information, contact:

*Office of Public Service  
MS 154  
NASA Langley Research Center  
Langley, VA 23665  
Attn: SSIP Internship*

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### AWARDS FOR AEROSPACE INTERNSHIP CONTESTS

- ◆National winners of each contest and their teacher/advisors receive a one-week, expense-paid educational internship at a NASA research center; they will interact with NASA scientists and engineers
  - ◆Honorable Mentions receive certificates of recognition
  - ◆All students who qualify receive certificates of participation
- 

### RULES AND GUIDELINES FOR AEROSPACE INTERNSHIP CONTESTS

1. Each proposal must be formatted exactly as follows:
  - ◆Entry Form
  - ◆Proposal title page
  - ◆Abstract -- a concise statement separate from text describing the overall proposal in 75 words or less
  - ◆Introduction
  - ◆Description of problem/hypothesis
  - ◆List of materials essential to experiment
  - ◆Procedures
  - ◆Analysis of data collected in experiment
  - ◆Reference bibliography
2. The body of the proposal may not exceed 1,000 words. All proposals must be typed, double-spaced, in black ink on white 8-1/2"x11" paper. Each page must be numbered. The student's name should appear *only* on the cover sheet. No reference to the student or location should appear in the proposal.
3. Proposed experiments must NOT REQUIRE open flames, toxic chemicals, temperature extremes, high

voltage discharge, or mammals (other than humans) as test subjects.

4. Although students are encouraged to participate in more than one contest, and to enter every year they are eligible, a student may not submit the same proposal more than once. National winners are not eligible to compete in the same contest again.

5. Judging Criteria for the Aerospace Internship Contests will be based on a total of 60 possible points:

- ◆Scientific validity (10 points)
- ◆Suitability to research facility and appropriate data handling (i.e., space station, wind tunnel, drop tube, supercomputer) (10 points)
- ◆Creativity (10 points)
- ◆Originality (10 points)
- ◆Functional usefulness (10 points)
- ◆Organization, clarity and appropriate references (10 points)

# HOW TO ENTER :

- ◆ All entries must be accompanied by a completed entry form.
- ◆ Entries must be postmarked by March 15, 1991.
- ◆ All entries become the property of NASA-NSTA SSIP.
- ◆ Rules and guidelines will be strictly enforced. Entries which are incomplete or do not follow guidelines will be disqualified.
- ◆ All judges decisions are final.
- ◆ All entries will be held for a maximum of one year.
- ◆ Students who want their Mars Settlement original artwork returned must attach a check for the amount of the initial shipping cost to the entry form.

## SPACE STATION PROPOSALS:

Find the region where your state is located and send your entry to the Director of that region. *DO NOT SEND SPACE STATION PROPOSALS TO NASA OR NSTA!*

## SSIP REGIONAL DIRECTORS

REGION I: CT, ME, MA, NH, NY, RI, VT  
Harry A. Kranepool  
Science Chair  
Bishop Loughlin High School  
357 Clermont Avenue  
Brooklyn, NY 11238-1001

REGION II: IL, IN, MI, MN, OH, WI  
David McKay  
Appleton High School West  
610 North Badger Avenue  
Appleton, WI 54914

REGION III: KY, NC, SC, VA, WV,  
DOD and State Department Dependent Schools of Europe and the Middle East  
Ann Watkins  
Brewster Junior High School  
Building 40  
Camp LeJeune, NC 28542

REGION IV: AL, AR, IA, LA, MS, MO, TN, FL, GA, Puerto Rico, and the Virgin Islands  
Melody Hall  
Five Forks Middle School  
3250 River Road, S.W.  
Lawrenceville, GA 30244

REGION V: CO, KS, NE, NM, ND, OK, SD, TX  
Kenneth Bingman  
Shawnee Mission West High School  
8800 West 85th Street  
Overland Park, KS 66212

REGION VI: AZ, HI, NV, UT, Southern CA, DOD and State Department Dependent Schools in the Pacific area  
Sid Sitkoff  
Instructional Specialist, Science  
Los Angeles Unified School District  
450 North Grand Avenue  
Los Angeles, CA 90012

REGION VII: AK, ID, MT, OR, WA, WY, and Northern CA  
Peter Samson  
Oregon Museum of Science & Industry  
4015 SW Canyon Road  
Portland, OR 97221

REGION VIII: DE, DC, MD, NJ, PA  
Sister Mary Carroll McCaffrey  
Mt. St. Joseph Academy  
Stenton and Wissahickson Avenue  
Flourtown, PA 19031

## AEROSPACE INTERNSHIPS ◆ NEWSPAPER PROMOTIONS ◆ MARS SETTLEMENT ART:

Send completed entries and entry sheet for these contests to:

*NSTA-SST*  
5110 Roanoke Place, Suite 101  
College Park, MD 20740

## TOPICS THAT HAVE BEEN EXHAUSTED FOR THE SPACE STATION, ZERO GRAVITY FACILITY AND WIND TUNNEL PROPOSAL CONTESTS:

These topics have been extensively covered in the past 10 years for these three contests; please look for new ideas, or if you feel that you have a fresh insight on any of these topics, indicate how this is a new approach in your proposal:

*"Loss of Calcium", "Frogs in Space", "Phototropism", "A Fifth Force", "Aerodynamic Drag", "Moths, Spiders, Bees etc.", "Circadian Rhythms", "Chicken Embryos", "Metal Formation", "E Coli Experiments", "Plant Transpiration", "Human Eye", "Geotropism", "Seed Growth"*

**TEACHER INSTRUCTIONS:**

1. Copy instruction side of this brochure for your students and other teachers in your school.
2. Copy and mail Resource Order Form (below).
3. Display poster side in your classroom to motivate your students.
4. Before signing the entry cover sheet, review your student's work to see that it meets all requirements to prevent disqualification. **Judges' decisions are final.**

**TEACHER AWARDS:**

**1. SSIP NATIONAL WINNER NEWCOMER INTERNSHIP**

A one-week space internship will be awarded to a winning SSIP teacher who has never previously had a student win at the regional level. The SSIP National Winner Newcomer will assume responsibility for meals and lodging during the internship; SSIP will pay for travel and facilitate the internship.

**2. THE NATIONAL SPACE EDUCATOR AWARD**

All teachers/advisors of SSIP national winners are eligible to compete for the National Space Educator Award. The recipient is awarded a cash prize and an expense-paid trip to Washington, D.C., to the prestigious National Space Club Annual Awards Banquet, NSTA Receptions and other events. Applications for the National Space Club are automatically sent to the teachers of National SSIP Winners of all contests.

**TEACHER RESOURCES: ORDER FORM**

Copy and return order form with payment to: *SSIP Teacher Resources*  
 5110 Roanoke Place, Suite 101 College Park, MD 20740

**REACH FOR THE STARS**

The expanded edition of the SSIP Teacher Resource Packet features a teacher's guide listing aerospace resource centers, research bibliography, suggestions on how to use SSIP in your classroom and school, and examples of past entries.

(Reach for the Stars – \$6.00+\$3.00 postage/handling)

**FUTURE VOYAGERS**

An Aerospace Resource Guide for Teachers and Students, Future Voyagers consists of materials developed by participants in the NASA-NSTA sponsored NEWMAS/NEWEST workshop series. This book, the largest of its kind, includes relevant reprints from professional publications and an aerospace resource bank.

(Future Voyagers – \$6.00 plus \$3.00 postage/handling)

**SSIP POSTER/BROCHURE**

You may order up to 20 additional copies of this brochure for use in your classroom or to give to your students as inspiration for the 1990-91 SSIP contests.

(Free Publication -- \$.50 postage/handling)

Name \_\_\_\_\_

Address \_\_\_\_\_ School  Home

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone (\_\_\_\_) \_\_\_\_\_

*Reach For The Stars* quantity \_\_\_\_\_ x \$9 each = \$ \_\_\_\_\_

*Future Voyagers* quantity \_\_\_\_\_ x \$9 each = \$ \_\_\_\_\_

SSIP poster/entry brochure quantity \_\_\_\_\_ x \$.50/per 20 = \$ \_\_\_\_\_

**TOTAL DUE:** \$ \_\_\_\_\_