DoD STARBASE

A Department of Defense Youth Program

Annual Report 2008

FORWARD FROM THE ASSISTANT SECRETARY OF DEFENSE FOR RESERVE AFFAIRS

This year's annual report includes comments from two of our senior military leaders, General Victor Renuart, Jr., Commander, U.S. Northern Command and North American Aerospace Defense Command, and General Kevin Chilton, Commander, U.S. Strategic Command. Both of these leaders provide their perspectives about the DoD STARBASE Program and how it is mutually beneficial to the military, our local communities, and the surrounding school districts.

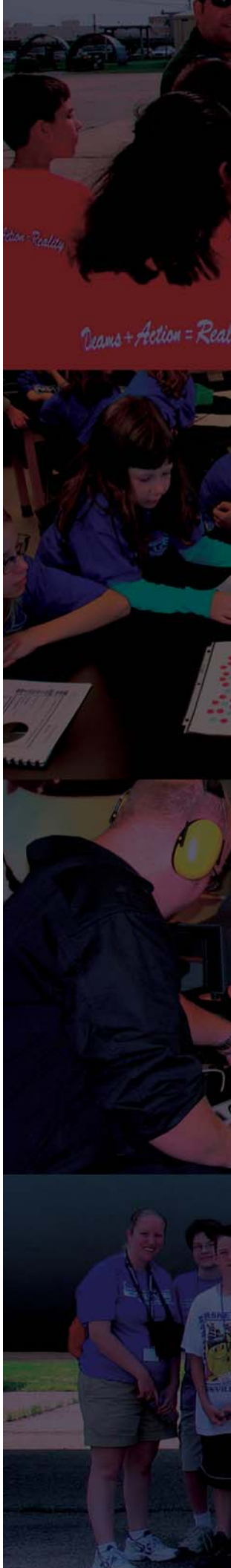
Also in the report are comments from Sally Ganem, the First Lady of Nebraska. Mrs Ganem, a school administrator, was able to make several visits to witness the DoD STARBASE Nebraska program in action. As an educator she appreciates the military's involvement in raising interest in science, technology, engineering, and mathematics (STEM) among our nation's youth.

Finally, this report provides information on how our military commanders and their staffs have made the DoD STARBASE Program one of the nation's leading STEM Ed programs for elementary students within their surrounding communitites. In FY 2008, the DoD STARBASE Program operated at 60 locations on military installations and facilities in 34 states, the District of Columbia, and Puerto Rico. The program worked together with 973 schools from over 200 school districts and reached more the 54,000 students. Since the beginning of FY 2001, the program has grown from 25 academies to 60, having served more than 300,000 students to date.

The strength of the program lies in the three-way partnership between the military, the local communities and the school districts. This partnership, coupled with constant innovation, enhances the delivery of our program. In the end, the success of the program depends on the student experience and the quality instruction delivered by DoD STARBASE staff and military volunteers. Military commanders lend the personal leadership while encouraging the aspirations of our young people. Students benefit by becoming imbued with our military culture which values knowledge, opportunity and diversity. The Department looks forward to continuing this partnership and this worthwhile investment in our nation's most valued resource: our nation's youth.

T. F. Hall

T.F. Hall



"OUR NATION HAS A RICH HISTORY OF EXPLORATION AND DISCOVERY, MARKED BY SCIENTIFIC ADVANCEMENTS THAT HAVE CHANGED THE WAY AMERICANS LIVE AND WORK. BY FOSTERING AN APPRECIATION FOR MATH, SCIENCE AND TECHNOLOGY IN YOUNG PEOPLE, PROGRAMS LIKE DoD STARBASE INSPIRE THE NEXT GENERATION OF PIONEERS TO CONTINUE THIS TRADITION OF ACHIEVEMENT."

President George W. Bush, March 20, 2008

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AN ISSUE OF NATIONAL IMPORTANCE

The United States is the world's leader in national security, economic well-being and technological leadership. Yet there is a crisis occurring that may challenge this nation's leadership. In national and economic security, the primary contribution often comes from physical scientists, mathematicians and engineers. These professions account for only 5% of America's workforce, yet in the past 50 years these professionals have created more than half of our economic growth.[1] These are the people who create, manage, and generate new methods and ideas. In the private and public sector their work leads to innovation, strength and progress. Many of the individuals serving in these positions are baby boomers near retirement. DoD laboratories expect to lose 13,000 scientists and engineers by 2015. Over the same time, the demand for scientists is projected to increase 17 percent and for engineers 22 percent. Unfortunately, while the demand for individuals in science, technology, engineering or math (STEM) related careers continues to grow, the number of students preparing for these careers remains stagnant.

Preparation for a STEM career requires long range planning and a multi-dimensional approach. In order to reach a broad range of youth, particularly youth who might never consider a career in STEM,[2] DoD must interest children at a critical point in their elementary education. Empirical data suggests that students must be encouraged to explore these fields long before they reach eighth grade because a majority "turn off" to STEM subjects as early as the fourth grade. In fact, a survey by Raytheon of American middle school students found that most of them would rather clean their rooms, eat their vegetables, take out the garbage or go to the dentist than sit down with their math homework. In addition, most parents, children and educators do not understand the role of STEM professionals in our society. As a result of these factors, a large portion of the K-12 student population does not have the educational preparation or personal motivation to pursue a STEM career in college.

A career in a STEM field requires that students make a decision by eighth grade in order to pursue coursework that could lead to the desired degree. This is due to the hierarchical nature of math and science coursework. For example: studying algebra is required before trigonometry, etc. Math is fundamental because it is, in essence, the language of science and engineering.[3] Far too many students are unaware of this necessary educational preparation and lack the prerequisite courses to pursue a scientific or technical degree in college. To maximize the number of students considering a STEM career, it is imperative to interest students at the elementary level.

Local communities and their school systems value the DoD STARBASE program and recognize the importance it has on improving the knowledge, skill level and motivation of our future workforce, especially in the STEM professions. This improved workforce will help safeguard America's security, economic competitiveness, economic growth and prosperity. Through partnerships with DoD STARBASE, communities are actively shaping America's youth into well informed citizens who will have much to contribute to our society in the near future.

THROUGH PARTNERSHIPS WITH DoD STARBASE, COMMUNITIES ARE ACTIVELY SHAPING AMERICA'S YOUTH INTO WELL INFORMED CITIZENS WHO WILL HAVE MUCH TO CONTRIBUTE TO OUR SOCIETY IN THE NEAR FUTURE.

DoD STARBASE is an outstanding, proven program that captures the interests of students and empowers them to consider STEM careers. It uses the science of flight, a dynamic curriculum, excellent teachers and a "wow" factor to raise students' awareness and interest. The program encourages students to reach beyond their current circumstances and envision themselves in careers they might not have considered and to make their dreams happen through action.

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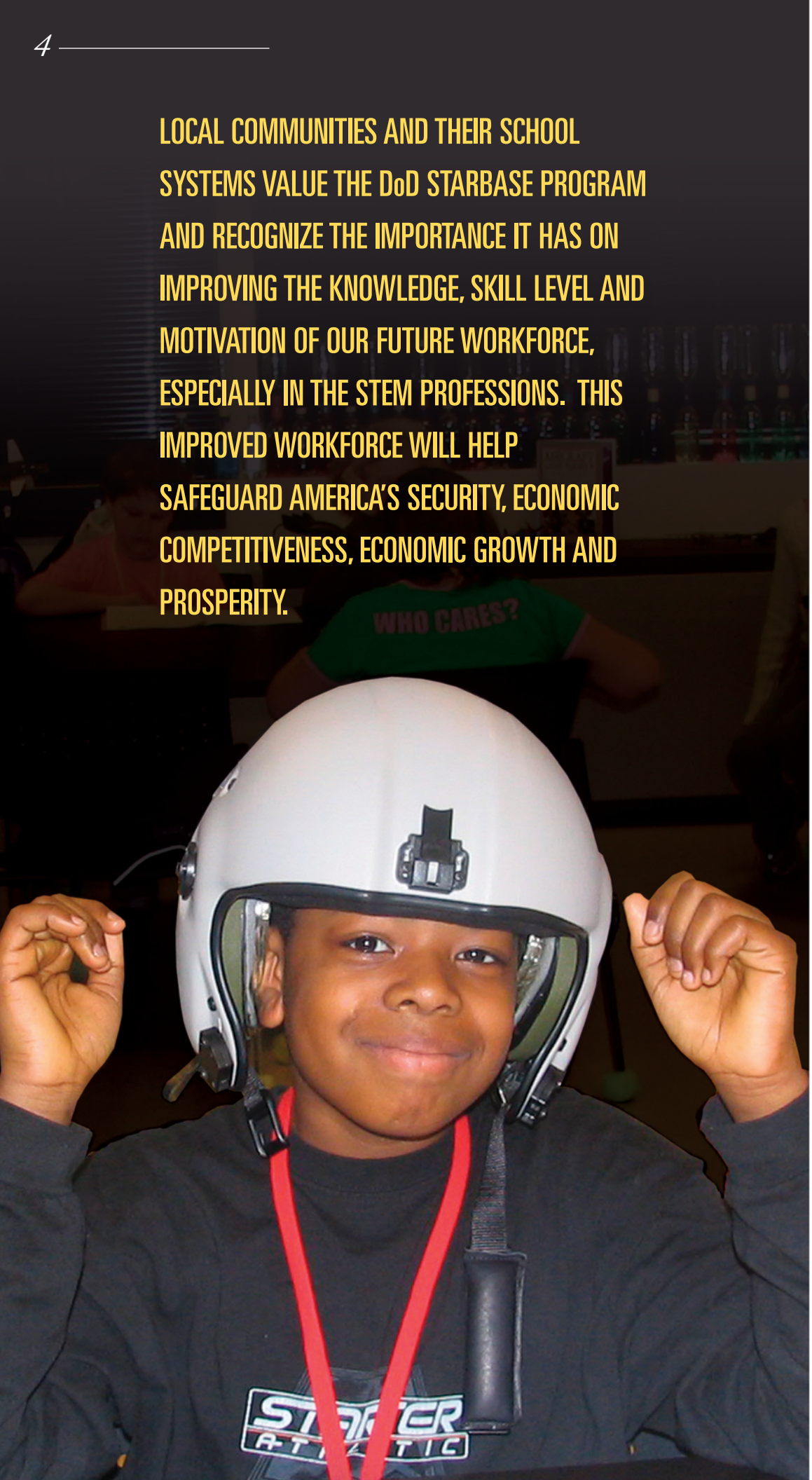
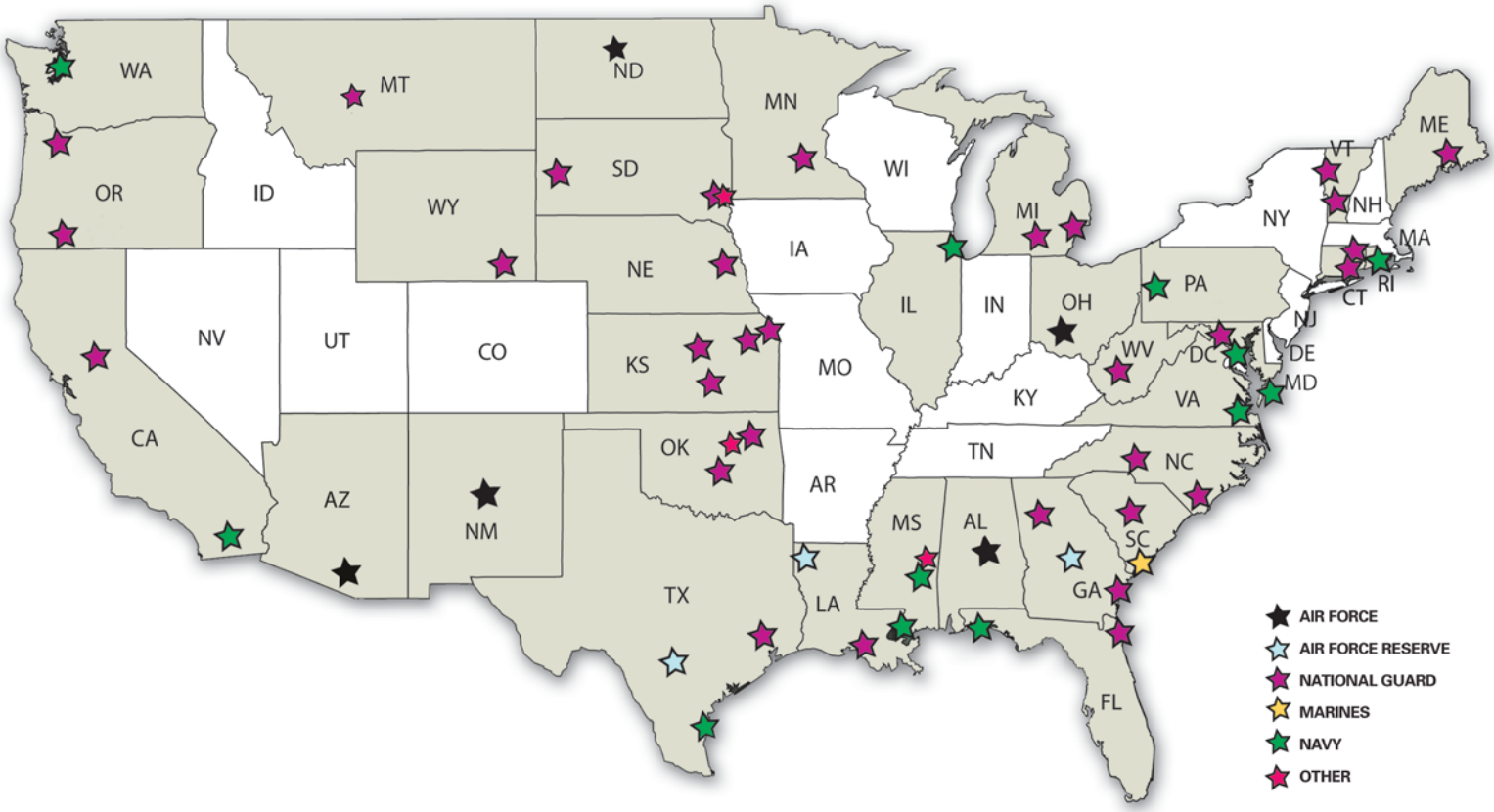
[1] America's Economy Needs More Diversity In Its Engineering Workforce, National Action Council for Minorities in Engineering Data Book, 2008, pg. 51

[2] Currently only 1.3% of the available pool of minority high school graduates earn engineering degrees each year. National Action Council for Minorities in Engineering Symposium Program, 2008.

[3] Is America Falling Off the Flat Earth? The National Academy of Sciences, 2007, pg. 24

LOCAL COMMUNITIES AND THEIR SCHOOL SYSTEMS VALUE THE DoD STARBASE PROGRAM AND RECOGNIZE THE IMPORTANCE IT HAS ON IMPROVING THE KNOWLEDGE, SKILL LEVEL AND MOTIVATION OF OUR FUTURE WORKFORCE, ESPECIALLY IN THE STEM PROFESSIONS. THIS IMPROVED WORKFORCE WILL HELP SAFEGUARD AMERICA'S SECURITY, ECONOMIC COMPETITIVENESS, ECONOMIC GROWTH AND PROSPERITY.





DoD STARBASE AT-A-GLANCE

- 60 DoD STARBASE locations in 34 states plus the District of Columbia and Puerto Rico
- 3 outreach programs to American Indians in MS, OK and SD
- Number of Students Since 1991: 480,000
- Number of Students Served in 2008: 54,106
- Cost of Program: $17,721,001
- Average Cost Per Academy: $310,895
- Average Cost Per Student: $328

"TELL ME AND I FORGET. TEACH ME AND I REMEMBER. INVOLVE ME AND I LEARN."

Benjamin Franklin

LEADING THE WAY THROUGH PROGRAM DESIGN

If Benjamin Franklin were a student in a DoD STARBASE program today, he would choose his own call sign. Perhaps it would be "Lightning." As Lightning, he would have what students describe as an "awesome experience" in which he would be totally involved and learning.

Involvement and learning are the hallmarks of a DoD STARBASE experience. Each academy guides students through exciting "hands-on, mind-on" experiments and activities that incorporate science, technology, engineering and math (STEM subjects). For example, after they have tried to save Eggbert from a catastrophic landing, students can clearly explain Newton's First Law of Motion which states, "An object in motion continues in motion unless acted upon by an outside force." They can also describe the properties of air after participating in an exciting series of experiments. Using a flight simulator, they apply their new knowledge about Bernoulli's Principles and Newton's Laws. They even use sophisticated computer-aided-design technology to create their own space station, rover, droid, or submarine.

The program impresses today's leaders in education, the community and the military with its excellence. A school superintendent in Texas describes the curriculum as "well-developed." A principal in Ohio wrote that his teachers "would forgo any other opportunity in order to take their students to DoD STARBASE."

The curriculum is constantly evolving to maintain its innovativeness. It is the first program in the country to teach elementary students the basics of sophisticated engineering technology for computer-aided design (CAD) so they can learn and apply rigorous concepts such as extrude, align and mate. Simultaneously they learn and apply math as they graph, measure and compute. The outcome is designing and manufacturing a special product such as a space module or a flashlight.

This year, twenty sites taught an advanced course in which the students manufactured their designs with a printer that uses ABS plastic to create 3D models. Fourteen more sites will add the course to their curriculums for the 2008-2009 school year. This technology is so advanced that some colleges do not have it.

Now that would really impress Mr. Franklin!

ALIGNING AND SUPPORTING STATE STANDARDS

Rigorous state testing to meet No Child Left Behind standards affects all of the public schools served by the DoD STARBASE academies. Alignment with national and state standards for math and science is a DoD STARBASE priority.

The emphasis on engineering and technology in the curriculum is leading the way in teaching and preparing students for the future when states will add testing for technology standards.[4]

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[4] Only two states (Iowa, Mississippi) and the District of Columbia do not have technology standards. Five states – Arizona, Georgia, North Carolina, Pennsylvania, and Utah – assess student competence on those standards through a required, state-administered test.

A GENERAL'S PERSPECTIVE

General Victor E. Renuart, Jr.; Commander, North American Aerospace Defense Command and U.S. Northern Command, Peterson Air Force Base, Colorado.

The DoD STARBASE Program stresses science, technology, engineering and math or the STEM subjects. Why is it important for the Department of Defense to support and encourage students to pursue these subjects?

As we look to the future and the demands placed on our future forces, science and technology will provide the portals through which the Department pours capability into any world event. If we do not have a professional force, educated by quality programs in math, science, and engineering, we will not be up to the challenge of tomorrow. Officers and enlisted members of our Armed Forces will require an ability to solve complex problems with limited information in complex situations and our school systems must prepare these young men and women for that environment.

How does DoD STARBASE Program impact local communities and their relationship to the military?

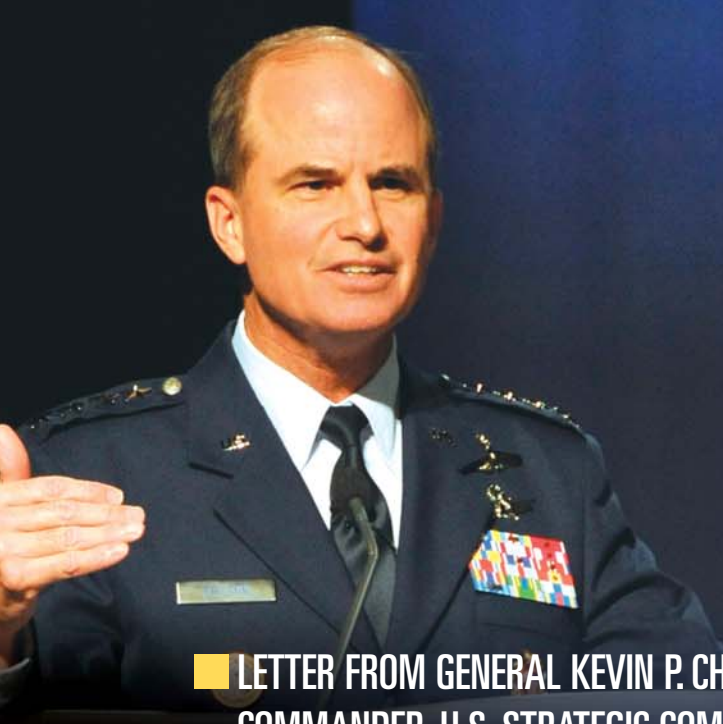
The partnership among local military installations, school districts, and the surrounding communities created by participation in the DoD STARBASE program ensures all are valued and equal stakeholders in the education of our children and that we are all accountable for the product: well-educated, articulate young men and women who are ready to take on the environment they will see in their future.

Do you think the program has a positive influence on military personnel?

The chance to act as a role model, to teach responsibility and leadership, and to shape the lives of these young students is an experience they will not forget. Many involved look forward to each new year and remain in touch with the young people they have worked with in previous years' programs. In addition, many develop long-lasting relationships with the families of the students.

Do you think the Department of Defense has benefited from DoD STARBASE?

I became aware of the DoD STARBASE program as we looked at ways to increase the partnership with local school districts. My wife and I were eager to expand the support local military installations could provide to schools around our bases. We felt that DoD STARBASE was a perfect way to engage with school leadership and include our military members to increase awareness of the importance of science, math, and engineering sciences for young people at an early enough point in their education that we might spark a long-term desire to pursue these skills for life. As an aside, DoD creates a potential pool of well-educated students that might choose service to their nation as their life's work. In addition, exposing the students to the men and women in uniform gives them wonderful role models, to become young people who have embraced core values like service, integrity, pursuit of excellence, young people who learn to lead and who are responsible contributors to their community. DoD STARBASE, in fact is that "launching point" for students who do not want to be limited in their future.



LETTER FROM GENERAL KEVIN P. CHILTON COMMANDER, U.S. STRATEGIC COMMAND

America is a nation of great leaders and thinkers. We are a nation of people who believe in the nobility of public service, in giving of our time and ourselves to others, and investing in today's youth for a better tomorrow.

DoD STARBASE is a DoD program that provides such opportunities. It's a place where young children can learn, pursue their dreams, and make them come true. DoD STARBASE gets kids excited about space, about discovery, and endless possibilities. They get to "see" and "do," experiencing first-hand the wonders of learning. It gets them interested in science, technology, math and engineering – the doorway to discovery!

Growing up in Los Angeles, I never thought one day I would fly jets for the Air Force, or command the Space Shuttle as an astronaut with NASA. And yet all this was made possible by remarkable people-parents, teachers, friends and mentors – who guided and taught me just like the DoD STARBASE Program does with America's youth.

As a parent and former astronaut, the program has special meaning to me because of its educational focus and opportunities for learning. It benefits everyone involved, not just the children. I've spoken with many teachers and volunteers involved with DoD STARBASE. They talk about how DoD STARBASE provided them the opportunity to give back to their community, and often times renewed their enthusiasm about their chosen profession and desire to learn. What a tremendous gift!

President Teddy Roosevelt once said, "All the resources we need are in the mind." The DoD STARBASE Program is one way we can expand the minds of our children and work together for a brighter future – one full of discovery and invention.

Thanks to all who are involved with and support DoD STARBASE.

KEVIN P. CHILTON, General, USAF
Commander, U.S. Strategic Command

NEBRASKA'S FIRST LADY

Nebraska's First Lady Sally Ganem is a recognized expert in education. She taught school for five years and was a principal for thirty years. Her love for children and teaching are immediately apparent when you speak with her.

A dynamic speaker she inspires the DoD STARBASE children when she attends their graduation, which she does on a regular basis. She tells them that her dream as a young girl was always to be a principal and her husband's boyhood dream was to be governor. They knew that to make their dreams a reality they would need to work hard and take positive steps, which they did. "She really connects to the students and inspires them to rise above their circumstances," says academy director Sherry Pawelko.

When the First Lady was principal of Title One Schools, her students did not have the opportunity to participate in a DoD STARBASE academy, but she says that if there had been an academy near her schools, she would have been "the first in line to sign up." She enjoys seeing the students engaged in learning at the academy. "Students enjoy the activities so much that they do not realize all that they are learning until the teacher says, 'Do you know that you just did a trigonometry problem?' or, 'Wow, look what you just did using physics."

When she was in the classroom, her favorite topics to teach were math and science. She realized that "half the battle was getting students attitudes to change." DoD STARBASE does this well through use of inquiry and discovery. "It just takes one spark that can peak a child's lifelong interest" in these subjects.

Ganem says that another benefit for the children is observing and interacting with the military personnel. "It helps them to see the military in a different light and realize all that the military does to keep our land safe."

"DoD STARBASE is really meeting its goals and objectives!"

SUPPORT FROM PRIVATE ORGANIZATIONS

Many private organizations provide support to DoD STARBASE programs. The following example illustrates the contributions of one of those private organizations. "You could not ask for a better partner" says DoD STARBASE Wright-Patterson Executive Director Kathleen Schweinfurth about AVETEC (Advanced Virtual Engine Test Cell, Inc.), a non-profit research organization in Springfield, Ohio. AVETEC's commitment to educational advances that will help the community of Springfield and the country keep pace with the advances in science, engineering and technology naturally align with DoD STARBASE and create a natural synergy between the two partners.

This collaboration began three years ago after Cathy Balas, Director of Education for AVETEC, toured the DoD STARBASE program with Schweinfurth. At that time, the academy was serving two schools from Springfield that were about to lose funding for bus transportation to the program. Without transportation, Springfield would be forced to discontinue their participation in DoD STARBASE. AVETEC came to the rescue and provided the necessary funds to continue to transport the Springfield students to their local academy. Since then the partnership between DoD STARBASE Wright-Patterson and AVETEC has grown rapidly from funding that first bus, to support that now includes two part-time teachers, bus transportation and t-shirts. The added resources expanded the program from one to sixteen Springfield schools.

Balas believes this collaboration helped AVETEC create a pipeline that will lead to a well-educated workforce in science, technology, engineering and mathematics. "Our mission is not just research, but the development of, and the commitment to the STEM workforce of the future. This is ingrained from our CEO, to our board, to every employee. Springfield was a heavy industry community and we are dedicated to helping the community prepare for the jobs of the future. STARBASE reaches kids when they have a natural curiosity about science and are not afraid of math or exploring ideas. It also opens their eyes to careers that they might have never considered."

"The STARBASE teachers are enthusiastic professionals who keep the students at the center of the program. We really like the fact that the classes involve classroom teachers as well as their students. It gives the teachers opportunities to see careers that they don't see everyday, particularly the disciplined military people who are doing incredible things in STEM," says Ms. Balas.

THE IMPORTANCE OF INSPIRATION

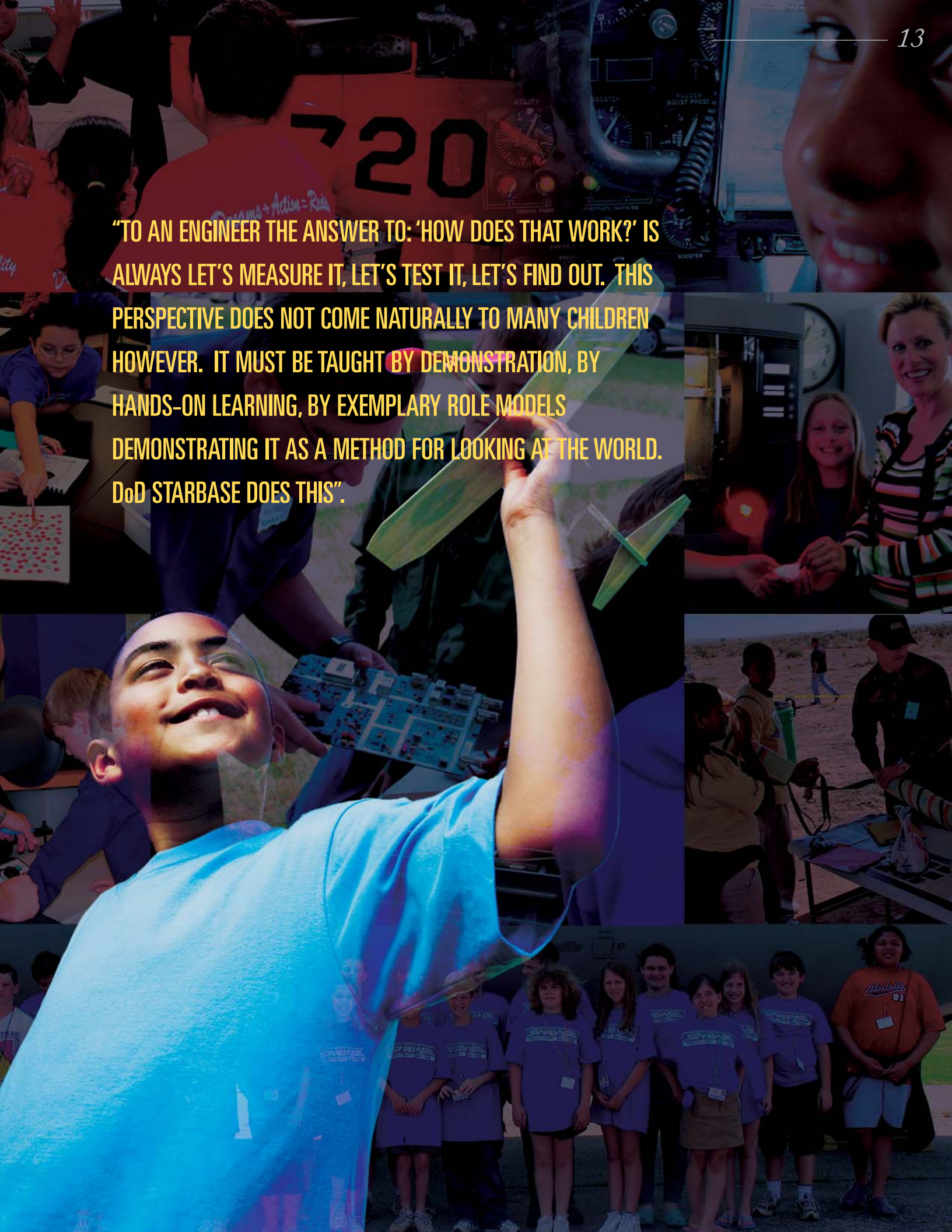
KEN PRATT, 1993 DoD STARBASE GRADUATE

To paraphrase a recent speech by Burt Rutan, one of the most prolific aircraft and spacecraft designers in modern times, 'The leaders, experts, and engineers of tomorrow are inspired by what they see and do as children between 3 and 15.' Not only do I strongly agree with Mr. Rutan, but also my own experience bears out and lends support to his theory. As a young boy I participated in the DoD STARBASE program at Selfridge ANGB, MI. Not only was playing with model rockets and learning about airplanes fascinating to me as a young boy, but I am now finishing a PhD (University of South Florida) focusing on artificial intelligence in aerial robotic systems, and this summer I will be working as a propulsion systems engineer for a private space flight company. As a nation, our international prestige and standing is driven by our technical expertise, and to maintain this prestige such expertise must be actively fostered.

Being a successful engineer requires a certain outlook, a certain mental state. To an engineer the answer to: "How does that work?" is always "Let's measure it, let's test it, let's find out." This perspective does not come naturally to many children however. It must be taught by demonstration, by hands-on learning, by exemplary role models demonstrating it as a method for looking at the world. DoD STARBASE does this. From my time in the program I still have strong memories of building model rockets and being excited to bring my parents to the launch to show them what I'd done. Strong memories of figuring out how to drop a raw egg off the roof and not break it (we failed valiantly). And strong memories of looking at jets awestruck and sitting in and flying the same simulators the real pilots used. I have been fascinated by rockets and aircraft since then.

After leaving STARBASE I have indeed maintained this engineer's inquisitiveness and experimentation. Since my time in the program I have gone on to be the lead engineer on a student run solar-electric vehicle team which raced on three continents and achieved the top American finish in a pre-Olympic Greek race. I also developed my own rocket fuel as a chemistry project and convinced my physics professor to teach a "Basics of Rocket Science" course. I graduated with Honors and a BS in Computer Science. During my first summer after entering graduate school I was selected as a Naval Research Experience Intern working on robotic systems at Naval Surface Warfare Center in Panama City. I completed my Masters with a thesis on the first use of UAVs during emergency response operations following Hurricane Katrina. Looking to the future I have been hired this summer as an intern working as a propulsion systems engineer and I am currently writing my dissertation focusing on UAV flight in urban environments.

During my education I have been fortunate to have numerous teachers who actively encouraged me to pursue my interests in science and engineering and gave me the tools to do so successfully. Thus it would be a disservice to claim that career path was determined only by my time at DoD STARBASE. But as Rutan argues, DoD STARBASE provided that critical early inspiration and fascination with science, technology, and engineering that helped guide me towards my current career path. DoD STARBASE was a valuable experience for me. In order to maintain our international standing, such opportunities need to be presented to as many young students as possible.



"TO AN ENGINEER THE ANSWER TO: 'HOW DOES THAT WORK?' IS ALWAYS LET'S MEASURE IT, LET'S TEST IT, LET'S FIND OUT. THIS PERSPECTIVE DOES NOT COME NATURALLY TO MANY CHILDREN HOWEVER. IT MUST BE TAUGHT BY DEMONSTRATION, BY HANDS-ON LEARNING, BY EXEMPLARY ROLE MODELS DEMONSTRATING IT AS A METHOD FOR LOOKING AT THE WORLD. DoD STARBASE DOES THIS".

DoD ACCOLADES

"HIGH SCHOOL SOPHOMORES ARE GIVEN A CAREER ASSESSMENT TEST EACH YEAR. IN PAST YEARS LESS THAN 20% WANTED TO FINISH HIGH SCHOOL. THIS YEAR THE CAREER ASSESSMENT TEST WAS GIVEN TO SOPHOMORES AGAIN WITH UNBELIEVABLE RESULTS! OUT OF 59 HIGH SCHOOL SOPHOMORES, 37 NOT ONLY WANTED TO FINISH HIGH SCHOOL BUT ALSO WANT TO PURSUE HIGHER EDUCATION, ESPECIALLY IN THE MEDICAL AND MILITARY FIELDS. THE DIFFERENCE IN ASSESSMENT RESULTS ARE DIRECTLY CORRELATED TO WHEN DoD STARBASE CAME TO OUR ELEMENTARY SCHOOL. WE ARE ELATED!"

–Career Assessment Director on the Pine Ridge Indian Reservation

WHAT EDUCATORS SAY

"I would never be able to provide these kinds of lessons in a classroom. This was especially helpful for me since I am science 'impaired.' This was an awesome real-life experience for our kids." – Pearl Harbor, HI

"Had it not been for partnerships like your program with the school district, my students would not have been afforded the opportunity to actually put into place difficult abstract concepts and make the connections between real-world and real-life situations." – Washington D.C.

"What a great program! I can't believe how lucky we are to have a chance to do this. At first the thought of being out of the classroom for five days panicked me; with so much to cover with the students it was hard to be excited. I was wrong and I knew this program was great the minute I saw the pre-test they gave the students. They took the kids farther in science in five days than I could take them in a couple of weeks! Thank you so much – I just hope we can do it again soon!" – Pax River, MD

WHAT STUDENTS SAY

"I thought the DoD STARBASE teachers were going to make the lab module. Instead, it was me who made it. I built and manufactured a lab module!" – Pineville, LA

"Well at first I didn't like it, but now I love it because I didn't know that science is cool." – Great Lakes, IL

"I love DoD STARBASE. In fact I get to teach my parents everything you teach me." – Sioux Falls, SD

WHAT PARENTS SAY

"DoD STARBASE somehow positively encouraged and motivated my unmotivated daughter in both math and science. She is actually trying much harder and is earning better grades in these two challenging subjects thanks to DoD STARBASE. I don't know how you do it, but keep it up!" – Pittsburgh, PA

"It is wonderful how this program is able to grab the child's attention – and keep it! My child is coming home wanting to use my cooking oil and food coloring for experiments and talks constantly about different scientific things." – Corpus Christi, TX

"Without a doubt, Texas DoD STARBASE made a positive lasting impression. The hands on activities challenged and encourage him in the field of science. He chose to attend a math and science magnet school and today I can proudly say he will be graduating from the Michael E. Debakey High School for Health Professions as a Texas Scholar. Of all his educational experiences, DoD STARBASE has made some of the most positive lasting impressions on his life. It is a program worth preserving and expanding to impact the life of every child." – Houston, TX

WHAT MILITARY VOLUNTEERS SAY

"Having the DoD STARBASE students visit us has become one of my favorite parts of what I do. It makes me feel good about what I do in the Navy, and it is very rewarding seeing how much the students enjoy their visit." – Pearl Harbor, HI

"DoD STARBASE Louisiana is committed to giving these children a chance to realize their individual potential and reinforce their desire to remain in school." – Barksdale, LA

"I feel pride in knowing that my time is well-spent and that I have had a positive influence on some of the young people in the community that I serve." – Houston, TX

OHIO EDUCATIONAL OUTREACH FOUNDATION
STARBASE
WRIGHT-PATT
U.S.

THE 2008 DoD STARBASE REPORT

Section 2193b, Title 10, United States Code authorizes the DoD STARBASE program. The authorizing legislation requires the Secretary of Defense to submit an annual report to Congress on the design, conduct and effectiveness of the program.

Over the years, the annual reports have documented the growth, performance, operational effectiveness, and the responses of the key participants in the schools, military bases, communities, and the target population of DoD STARBASE. The students' performance is consistently positive and the demand for reaching additional youth is constant and persistent. This year's report will continue much of the previous year's format but with an additional focus on technological applications and required professional development. These new initiatives were added to the curriculum to upgrade and enhance the quality of the program.

The FY 2008 assessment process obtained information via structured interviews, questionnaires, testing, and attitude assessment, program visits, and conversations with all program participants. Twenty academies were visited and assessments obtained from 3,279 students and 231 teachers. Interviews and/or questionnaires were received from military and civilian volunteers, and all DoD STARBASE directors.

Each section provides an assessment of the program's progress and describes the unanticipated and/or unresolved issues that emerge in program operations. The report is organized as follows:

- **Program Overview:** Partners, program elements, academy staffing, program growth, critical events, and not-for-profit organizations
- **Student and Teacher Composite:** Student and teacher composite results
- **Program Growth:** Growth history, current growth data, and growth issues
- **Critical Events:** Natural events affecting the programs
- **Program Oversight:** Compliance procedures and adherence
- **Fiscal Analysis:** Program costs and supplemental funds
- **Considerations:** Program performance, fiscal analysis, program operations, curriculum, compliance issues and data collection
- **Student and Teacher Assessment:** Student knowledge and attitude assessment, and teacher assessment of the program
- **Appendices:** Additional assessment charts, research instruments, and glossary
- **DoD STARBASE Directory:** General information such as, point of contact, starting date, and a listing of schools and school districts for each academy

PROGRAM OVERVIEW

The future of America's security, economic competitiveness, economic growth and prosperity rests on our ability to upgrade the knowledge, skill level and motivation of our workforce, especially in the STEM professions. Yet, our pool of scientists, engineers and mathematicians is declining as the average age of America's STEM workforce is rising. These issues drive the need to motivate America's youth to consider STEM careers and begin the necessary educational preparation to pursue these areas in college. Only a decade ago, almost a third of U.S. high school students planned to seek an engineering degree; today that percentage has dropped to close to 6%. In addition, as our baby boomers move into the retirement pool, the numbers of individuals in critical positions (in both domestic and defense) are rapidly diminishing. Recruitment of foreign students and talent to fill these vacancies present more difficult problems with current security risks. As a result we are migrating our intellectual resources and talent to foreign markets. The defense department and other governmental agencies have formed several committees to explore these issues to create an integrated and concentrated effort in our educational and training systems to consider and encourage STEM subject areas and careers. DoD STARBASE is one element in the building of that talent pool.

DoD STARBASE is designed to reach students at the fifth grade level. The goal is to build skills in those critical areas and to motivate students in STEM objectives as they proceed in their academic careers. In addition, the program focuses on students who are "at-risk." These students are usually found in inner cities or remote rural areas, are socio-economically disadvantaged, possess a disability, or have experienced low academic achievement. While classes are not exclusively composed of students with these attributes, the majority possess one or more. Most classes are very diverse socially, economically and ethnically. The program is designed to develop knowledge and skills while encouraging students to set goals and achieve dreams.

Students are engaged through an inquiry-based curriculum with "hands-on, minds-on" experiential activities. Students apply Newton's laws and Bernoulli's principals as they study the wonders of space and the properties of matter. Technology and its problem-solving techniques are utilized with computers in experiments, flight simulations, in the design of space stations, and all terrain vehicles. Math is embedded throughout the curriculum as students use metric measurement, estimation, geometry, and simple statistical formulas to solve problems. Teamwork and goal setting are a constant theme as students work together to explore, explain, elaborate and evaluate concepts.

Military volunteers are used as guest lecturers where they explain the use of STEM in different applications and careers and act as tour guides demonstrating the application of abstract concepts in their missions. They provide unique experiences that most students would not ordinarily be exposed to. Since the academies are located in different branches of the military, this experience is highly varied. Students may discuss how chemical fires are extinguished, learn how the injured are transported, explore the cockpit of an F-18 or the interior of a C-130, or see what life is like in a submarine. What is constant is the natural excitement the students experience in the presence of a military volunteer.

THE PARTNERS

The DoD STARBASE program depends upon several partnerships to accomplish their mission which is, "to raise the interest and improve the knowledge and skills of at-risk youth in math, science, and technology by exposing them to the technological environment and positive role models found on military bases and installations." The three key partners directly involved in the sponsorship and delivery of the DoD STARBASE program are: the military, the local school districts, and the surrounding community.

The participants in this partnership are teachers, community leaders, government officials, school administrators, military personnel, parents, volunteers and members of the business community. With 57 operating academies in FY 2008, the breadth and scope of the partnership networks is extensive. This year the program reached 54,106 students from 973 schools in 34 states, the District of Columbia and Puerto Rico. Over 450,000 students have been served over the life of the DoD STARBASE program. $17,721,001 was used to fund the program this year. The average cost per academy was $310,895 and the cost per student was just above $327. Through in-kind support from these partnerships, STARBASE is able to deliver a quality program while keeping the cost per student at a minimal level.

The Military

Military installations provide classroom space, utilities, access to military personnel and volunteers, and periodically other in-kind services such as administrative support. Many military commanders consider DoD STARBASE the cornerstone of their community public affairs program. They become actively involved in the program as keynote speakers at graduation or classroom presenters.

The School District

School districts sign a formal agreement with the DoD STARBASE academy prior to the program's installation. The superintendent of the school district is usually the signature authority. This document outlines the agreement by the school to supply target students, transportation to and from the base, student lunches, scheduling and the attendance of classroom teachers as monitors while at the academy. Transportation costs (either in whole or part) are the normal in-kind cost to the school system. The increased cost of fuel is making this contribution challenging to school districts. This year 87% of the schools were able to provide transportation with 13% seeking outside donations.

The Community

Acceptance and support from the community is overwhelming. Community participation takes many forms including volunteer hours, donations of equipment, fundraising, networking, public relations, serving on a not-for-profit board of directors, and informing public and business leaders of the benefits of the DoD STARBASE program. One of the most effective organizations that a number of academies work with to accomplish these tasks is a not-for-profit private organization. Academies that worked with a not-for-profit private organization have experienced a great deal of community support involving business organizations, educational agencies and other synergistic organizations such as museums and science education programs.

THE PROGRAM ELEMENTS

The basic guidelines and requirements of the program are specified in the Department of Defense Instruction (DoDI). The DoDI covers topics such as budget, grade level, class size, scheduling, curriculum, number of students, target population, documentation requirements, testing, service area, etc. Any exception to the DoDI by the academy must be requested in writing from OASD/RA through the service representative.

Grade Level

The legislation allows the program to serve students K through 12. However realizing that students begin to lose interest in math and science after the fourth grade and wanting to foster this interest in as many students as possible, DoD focuses its resources on the fifth grade. In addition, the curriculum and materials have been designed and refined over the years with that grade level in mind. This year, all but two academies served 5th grade students and these two sites served fourth and/or sixth grade.

Class Size

Maintaining a small class size is an integral and essential component of the "hands-on, minds-on" inquiry based curriculum that DoD STARBASE utilizes. The DoDI guidelines require an average teacher to student ratio of 1:15. The average class size for FY 2008 remained the same as reported in FY 2007 at 23 students maintaining a teacher to student ratio of 1:13. Eleven academies reported averages less than the required limit with 14 to 19 students per class.

Class Schedule

DoD STARBASE academies have the option of offering a four-day (20 hour) or a five-day (25 hour) program. Each option offers its own advantage. The five-day program allows time to cover topics in greater depth while the four-day program allows the academy to schedule more classes and reach more students. The overwhelming choice of the academies is the five-day program. This year 47,745 students (88%) attended a five-day program, while 6,361 students (12%) attended a four-day program.

Program Service Area

As in past years the majority of the academies served students within a 50-mile radius of their location. This allows the program to transport students to and from the academy in a low-cost and time sensitive manner. This year over 74% of the academies served schools within a fifty mile radius.

Academies that go beyond a 50-mile radius generally design special accommodations for delivery. In some cases, the program is designated as an outreach program, such as those serving the Indian reservations, and is linked to the primary academy.

In addition, a few academies have remote delivery programs, such as teleconferencing, to reach more students. These initiatives are permissible only after the academy has met the required standards

Ethnic Composition

DoD STARBASE academies serve an ethnically diverse student population across the country. Over the past several years, the Hispanic/Latino student population has displayed the greatest increase as it has in the annual demographics of the U.S. and its territories (See Exhibit 1). FY 2008 data indicates a Hispanic/Latino student profile of 16% of the total student population as compared to 11% in FY 2001. This is an increase of 5% over that time period. Academy directors predict that their Hispanic/Latino student population will continue to grow and anticipate that this population will become proportionately higher than the Black/African American population in the next few years.

Native American and Alaskan Native students have also increased in number since FY 2001 because of the installation of programs in Mississippi, Oklahoma, South Dakota, and Alaska. The Black/African American and the caucasian student populations have shown the greatest decline (-4%) in number of the total student population over the FY 2001 – 2008 period.

Ethnic Composition of Students 2001 – 2008
Exhibit 1

Ethnicity/Race	2001	2002	2003	2004	2005	2006	2007	2008	NET 01 - 08
Black/African American	25%	27%	27%	23%	22%	21%	23%	21%	-4%
Asian/ Pacific Islander	4%	5%	5%	4%	4%	5%	4%	5%	+1%
Caucasian	54%	47%	46%	47%	48%	49%	47%	50%	-4%
Hispanic or Latino	11%	14%	15%	15%	16%	15%	17%	16%	+5%
Multiracial	0%	1%	2%	3%	3%	3%	3%	2%	+2%
American Indian/ Alaskan Native	3%	4%	4%	5.5%	5%	6%	5%	4%	+1%
Other	3%	2%	1%	3%	0%	2%	2%	2%	-1%

Gender Composition

The gender composition of the academies is the same as last year at 49% female and 51% male. This ratio has been relatively constant over the past several years. There are variances in gender composition between academies but the normative seems to level out to maintain a balance in number. This balance in general composition is used in several analytical presentations in this report.

Employment Affiliations

Academies operate under a variety of organizational arrangements. The primary employers are state, federal and contractor agencies. The employer structures the employee's salary, benefits, administrative costs and personnel practices. Having different employers results in major differences in salary guidelines, benefits, hiring practices, and staff qualifications. Costs of academy operations are affected by these differences. While the DoDI provides general guidelines on personnel models, salary levels, and general position requirements, variances by location and sponsorship occur. These general guidelines and operational considerations are currently under review.

Over the past years, there has been a movement towards federal and/or state employment as demonstrated in the following exhibit. Federal and state employment usually, but not inclusively, assure retirement and health benefits but also have higher employee costs.

Employment Affiliations
Exhibit 2

Organizational Affiliation	2005	2006	2007	2008
Federal Employee	52	54	60	61
State Employee	69	69	78	86
Contract Employee	110	110	105	120

Organizational arrangement is an important consideration in the initial stages of installation since there are vast differences in budget management, cost of operation, personnel practices, staff retention, procurement practices and reporting requirements. Cost of operation, especially over time, becomes a major consideration in program management where annual increments, COLA's and overhead costs become a challenge to each academy's management.

Staffing Model

The staffing model for the academies is outlined in the DoDI along with comparative grade-level suggestions for payroll and budgeting purposes. The model includes four full-time paid staff equivalent positions: a director, a deputy director/program instructor, a program instructor and an office manager. The suggested pay scale equivalencies in the DoDI are, in ordered sequence, GS 12-13, GS 11-12, GS 9-11 and GS 6-9. With annual budget limitations, discretion on the utilization of these equivalencies is left up to the local academy and its supporting organizations, if any.

Over the years, academy directors have chosen to restructure their personnel model. The primary reason has been related to budget management issues. Currently the average staff costs are close to 80% of the academy budget. Academies operating under federal sponsorship are on the high end of 80% with one academy's employee costs consuming 98.9% of their total budget. Hiring employees at the higher grade and step levels is becoming more problematic and directors will need to make adjustments to stay within their budgets.

The most common personnel model change is to reorganize the administrative position to expand instructional capability and classroom support. Other adjustments directors have applied are: job-sharing, hiring part-time instructors, consolidating job tasks, limiting benefits, hiring retirees and hiring at the lower grade and step-levels (See Exhibit 3).

Academy Staffing Profile[5]
Exhibit 3

Position	Number of Staff	Full-Time	Part-Time
Director	51	51	0
Deputy-Director	46	46	0
Instructor	101	72	29
Office Manager	57	38	19
Other	12	4	8
TOTAL	267	211	56

Some directors handle more than one academy; thus the number of academy director positions is lower than the 57 operating academies. The two top positions, director and deputy director are generally full-time positions. It is at the instructor and the office manager position that part-time and job sharing decisions are made. For the academy, decisions on increasing instructor time availability and program delivery is the priority. There are several academies where directors conduct sessions or provide back-up when instructors are sick or unavailable. Many of the professional staff are cross-trained in the curriculum.

Instructors

DoD STARBASE instructors are experienced and skilled. Almost all instructors are certified in their states or have reciprocal certification from other states. They must be knowledgeable in math, science and technology and be supportive and committed to the rigorous "hands-on, minds-on" inquiry-based teaching methodology and curriculum that the program espouses. The recent addition of a computer-aided design activity, developed by PTC, was a challenge for many of the instructors. After instructor training, the development of teacher aids, and a number of reiterations, the new core curriculum application is popular and well-accepted by both students and the instructors. New applications and upgrades are currently being developed and explored.

[5] One director, seven instructors, two interns and two office managers are not included in the chart as they are paid from non OASD/RA funds.

Staff Development

Almost every academy has some form of staff training and development. Training takes many forms including: sister academy visitations, national workshops on new curriculum applications, on-the-job training, staff retreats, formal certification requirements by state and local educational systems, orientation sessions, conferences and in-house curriculum review and development. Most academies have money set aside to cover some costs on travel and workshop fees, but occasionally some academies turn to outside funding for staff training. Almost all academies are involved in curriculum review, revisions and redesign of delivery which, in turn, requires staff training before implementation.

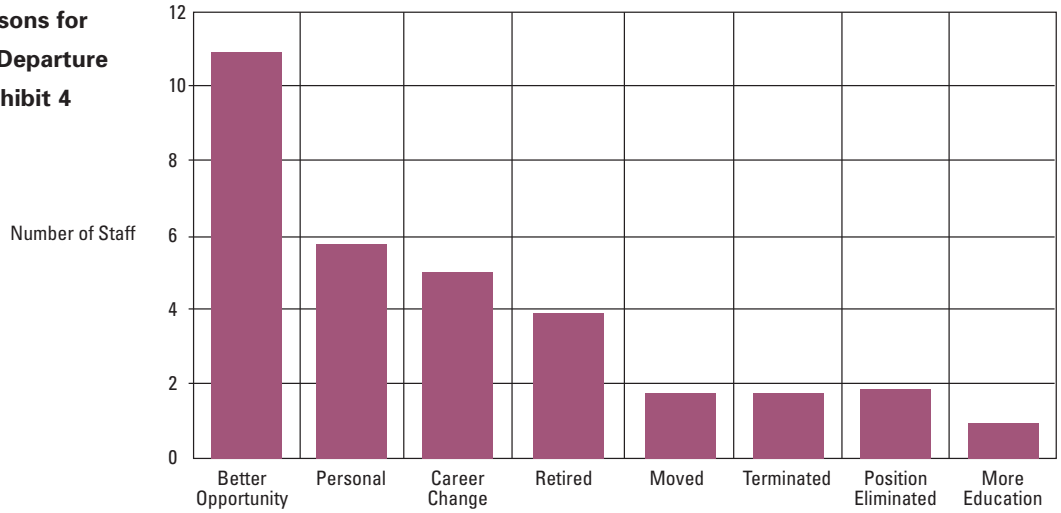
Individual academies typically train new staff on-the-job. New instructors observe experienced instructors who also serve as mentors. After initial training, new instructors are observed by another instructor before independently teaching. Continued monitoring is conducted periodically by the director or deputy director. Employee handbooks, teacher aids, curriculum guides, academy visitations, testing materials, videos and other applications on techniques and content are readily available and encouraged in their use. Continuing education and professional development in the program's content areas is also encouraged by most of the academies.

DoD STARBASE program staff also attends workshops and conferences conducted by OASD/RA. The professional development committee of the DoD STARBASE Program has designed and developed workshops for both national and regional delivery. PTC, in particular, required initial regional workshops. It is expected with new upgrades in PTC additional regional training will be required. A national director and teacher conference is planned for the spring and summer of 2009 respectively.

Staff Departure

Thirty-four out of 266 DoD STARBASE staff members departed in FY 2008. The majority (62%) were at the instructor or deputy director level. Ten of the employees indicated that better opportunities were the prime reason for their decision. This accounted for close to 30% of the turnover population (See Exhibit 4).

Reasons for Staff Departure Exhibit 4



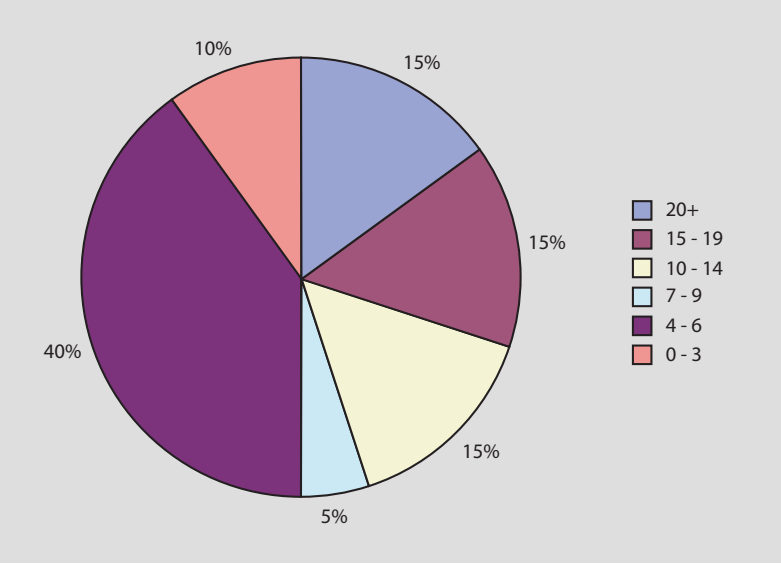
The departure rate in FY 2008 was less than the previous four years as demonstrated in the following chart and less than the national average for teachers (15%) in the public school systems. DoD STARBASE program loses some of their instructors to their participant school systems because their skills are so highly prized. For those, it reflects the effective transportability and migration of the DoD STARBASE program into the target areas in which it serves. In FY 2008, 34 staff left as compared to 37 in FY 2007.

Staff Departure Rate 2003-2007
Exhibit 5

Program Year	2003	2004	2005	2006	2007	2008
Number of Staff	168	238	231	233	243	267
Number of Departures	10	30	39	36	37	34
Turnover Rate	6%	13%	17%	15%	15%	13%

Excessive turnover can be costly and disruptive, but it can also provide opportunities such as the migration of skills, content and capability to the participant school systems when they hire former DoD STARBASE program personnel into key positions. It reinforces the partnership between the DoD STARBASE program and the school system and their commitment to common objectives. On another level, it provides the academy director the opportunity to restructure their hiring practices in order to stay within budget management requirements.

The average time it took to replace a staff member in FY 2008 was 10.25 weeks. This figure is lower than last year's 11.30 weeks for job replacements. Some positions tend to require more extensive job postings and vetting procedures.



Time to Fill a Vacant Position
Exhibit 6

Not-For-Profit Organizations

Not-for-profit organizations are a popular resource for academy support. Board members provide advice, access to community resources, fund raising, and other activities to enhance individual academies. In FY 2008, the not-for-profit organizations supported the academies in obtaining over a half-million dollars. Funding sources included state and federal funds, grants, and donations. The amounts per academy varied from $500 to $139,000.

DoD takes no position regarding not-for-profit organizations. Most of the not-for-profits were established before 2001 when the program was being piloted and ongoing financial support uncertain. Today, a well-functioning and productive not-for-profit organzation is a valuable resource to enhance the DoD STARBASE program student's experiences.

Use of Not-for-Profits by Military Components
Exhibit 7

Military Component	# Academies	# Not-for Profits	% Academies With Not-for-Profits
National Guard	35	23	66%
Navy/Navy Reserve	13	0	0%
Air Force	4	2	50%
Air Force Reserve	4	3	75%
Marines	1	1	100%
Total	57	29	51%

Services Provided by Not-For-Profits 2005 - 2008
Exhibit 8

Service	2005	2006	2007	2008
Marketing/Fundraising	80%	68%	72%	83%
Grant Writing/Submissions	57%	42%	38%	65%
Program Planning and Review	47%	58%	52%	76%
Budget Planning and Review	47%	58%	41%	52%
DOD Compliance Review	27%	52%	52%	45%
Other	27%	13%	21%	10%
Review of Potential Staff	23%	23%	38%	48%
Review of Subcontractor Relations	23%	23%	27%	31%

[6] The Secretary of Defense and the Secretaries of the Military Departments are authorized under Section 2193 (b) subparagraph (f) to accept financial support as well as other types of support from not-for-profits and other private sector organizations.

PROGRAM GROWTH

The demand for the DoD STARBASE program to expand is practically universal. Demonstrated capability and observed results are credible and effective marketing instruments. Seventeen states now have two or more academies. In FY 2008, five academies were added: Savannah, GA; Keaau, HI; Minot, ND; Salina, KS; and Kansas City, KS. In addition, the Native American outreach program in South Dakota was expanded, as was the program in the Minneapolis/St. Paul area. While demand for additional academies is persistent, the availability of federal funds limits the program's growth. In order to help meet this demand, academies have added supplemental programs.

Balancing demand and growth is a challenge to DoD STARBASE Program staff. Offering additional services without damaging the quality of existing commitments or overburdening staff is a continuous balancing act.

PROGRAM OVERSIGHT

Program oversight is managed by the Office of the Assistant Secretary of Defense for Reserve Affairs (OASD/RA). This responsibility includes: program funding and management; developing and implementing regulatory guidelines; monitoring program compliance with regulations; assessing the program's effectiveness in meeting its goals and objectives; insuring effective installation of new programs; coordinating activities between the participant groups; submitting an annual report to Congress on program performance; and providing administrative oversight as needed.

From 1993 to 2000, STARBASE was a pilot program and each academy operated with relative independence. While there were differences in program emphasis, operational procedures and program delivery, common threads appeared in program theory, techniques and program content. Variations included: differences in classroom hours, core curriculum, program site location and teaching methodologies. Academies were given flexibility to design curriculum content and delivery within the 13 core curriculum areas and encouraged to use local and community resources to enhance program services. This resulted in variations in program profiles across the academies.

After 2000, as the program matured and the number of academies increased, concerns about program continuity started to emerge. Key concepts, best practices and proven methodologies were being compromised as each program went their own way. In the fall of 2000, DoD STARBASE became a statutory DoD program. It was at this point that OASD/RA distributed a set of common instructions and guidelines regulating DoD STARBASE under DoDI 1025.7. These requirements were designed to guarantee a set of basic operating procedures and conditions. The DoDI emphasized the number of classroom hours, participant eligibility, military base delivery, fiscal and property audits, core curriculum coverage, and methodology. The policies developed by OASD/RA were derived from best practices and lessons-learned during the pilot stage.

Compliance Procedures

A compliance program was developed by OASD/RA to ensure that academies adhere to and meet DoDI requirements. Academy activities are monitored by OASD/RA using techniques such as site visitations, audits, director's questionnaires, self-reporting techniques and observations. Compliance visitations are conducted, at a minimum, every three years. The visitation involves a documents review, observation of specific classes, staff interviews, school administration interviews, and a base commander briefing.

Each academy has access to a copy of the DoDI along with an operating manual. Orientation sessions are provided to academies that are in the start-up phase. Any exception to the DoDI requires a written approval from OASD/RA in the form of a waiver. Academy directors can apply to OASD/RA for a written waiver by documenting the need for the exception, noting whether the condition is temporary or permanent. If an exception or waiver is refused, the academy develops an agreed-upon plan for corrective action to be successfully completed in a scheduled period of time.

Compliance Adherence

The DoD STARBASE academies are, for the most part, in full compliance with the DoDI basic requirements. There are a few academies that are struggling with number of classes, class size, the absence of timely property and fiscal audits, and in obtaining appropriate OASD/RA waivers.

Four academies fell below the 28 class requirement this reporting period. State testing, shortage in staffing and scheduling conflicts were provided as explanations to these shortfalls. Only one had officially notified OASD/RA.

Eight academies had class sizes below the 20 student minimum requirement. Most of these academies work with rural schools which typically have smaller class sizes. Exemptions and waivers, along with a corrective action plan, would have obviated the need to identify these academies as "non-compliant." This lack of reporting to OASD/RA is the most frequent violation by the academies.

Meeting core curriculum coverage and PTC installation were not violations identified in the visitation process although much of this is dependent on academy self-reporting. Visitations, which are done to a little more than a third of the academies each year, can only cover a sample of all classes during the compliance visit.

Audits are not always conducted by the bases or the sponsoring agents within the required three-year period. Four academies have not had the required fiscal and property audits within the allotted time frame, but all have submitted formal requests to their service components.

Staff manning models are highly variable although the prototype of one director, one deputy director/program instructor, instructor, and office manager is the norm across the program. Changes in staffing composition continue due to budget constraints and program delivery requirements. While most requests for waivers on these issues are provided, not all submitted reports to OASD/RA.

Each year, the compliance adherence by the academies is improving. The objective is for all academies to achieve full compliance on these basic DoDI requirements.

FISCAL ANALYSIS

To operate the DoD STARBASE program, funds are provided through a congressional appropriation to the Department of Defense. Within DoD, the Office of the Assistant Secretary of Defense for Reserve Affairs (OASD/RA) administers and oversees the program and funds management. In 2008, Congress appropriated $20,203,000 for the program. In return, OASD/RA allocated $17,721,001 for academy operations. This amount is used for the analysis of this report. The remainder of the appropriations was used in evaluation/assessment activities, academy staff development and training programs, and overall program design and development activities. In total, 88% went to academy operations.

For this fiscal year, 57 academies were in operation, of which five new sites were in various stages of installation. Two of the new academies were not in a position to deliver programs to the students at the time of this study but are currently in operation. Both of these academies are included in the following chart, as are the other three which were in transition.

Cost per Academy/Student (2004-2008)
Exhibit 9

Year	Average Cost Per Academy	Average Number of Students Per Academy	Average Cost Per Student
2004	$272,469	932	$292.35
2005	$273,040	1042	$262.03
2006	$293,584	1002	$292.78
2007	$301,773	1010	$298.78
2008	$310,895	949	$327.52

This inclusion had some minor debilitating effect on the student cost ratio. By making a prorated adjustment on the number of students per academy to the cost of training students, the average cost would be closer to $315.88 per student in 2008. The average cost per academy was $310,895 which was higher (by $9,222) than the average academy cost in FY'07, which was $301,773. The rate of increase in the cost of an academy was 1.03% from last year and 8.76% from five years ago. Most of the increases in costs are attributable to professional development; i.e., new curriculum applications, equipment and training such as engineering design and manufacturing, and the cost of living.

On the whole, the average costs have remained relatively stable, in spite of installation transition gaps, over the past five years. Student costs have hovered around $300 per pupil. This year's cost of $327.52 (or the prorated figure of $315.88) is not that far from last years $298.78.

Using the chart figures, the rate of increase from 2004 to 2008 for the average cost per academy was 3.53%, while the average increase per student was 3.00%.

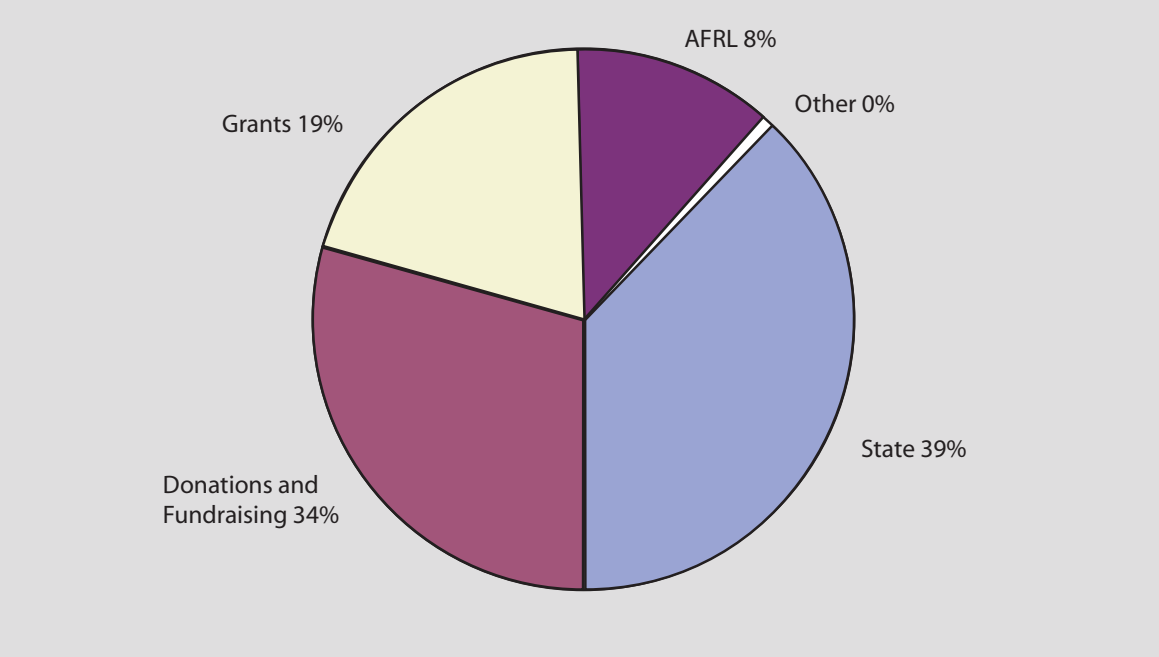
Operational costs differ between academies. Several factors contribute to the cost variances including geographic location, outreach programs and salary scales used by the sponsoring affiliate. OASD/RA reviews each academy's budget and tries to maintain an equitable distribution of funds. The following exhibit compares the average cost per academy by the military affiliation.

Average Cost per Academy by Military Affiliation
Exhibit 10

Military Affiliate	Number of Academies	Average Cost Per Academy
National Guard	35	$307,958
Navy/Navy Reserve	13	$334,154
Air Force	5	$287,014
AF Reserve	3	$281,467
Marine Corp	1	$319,000

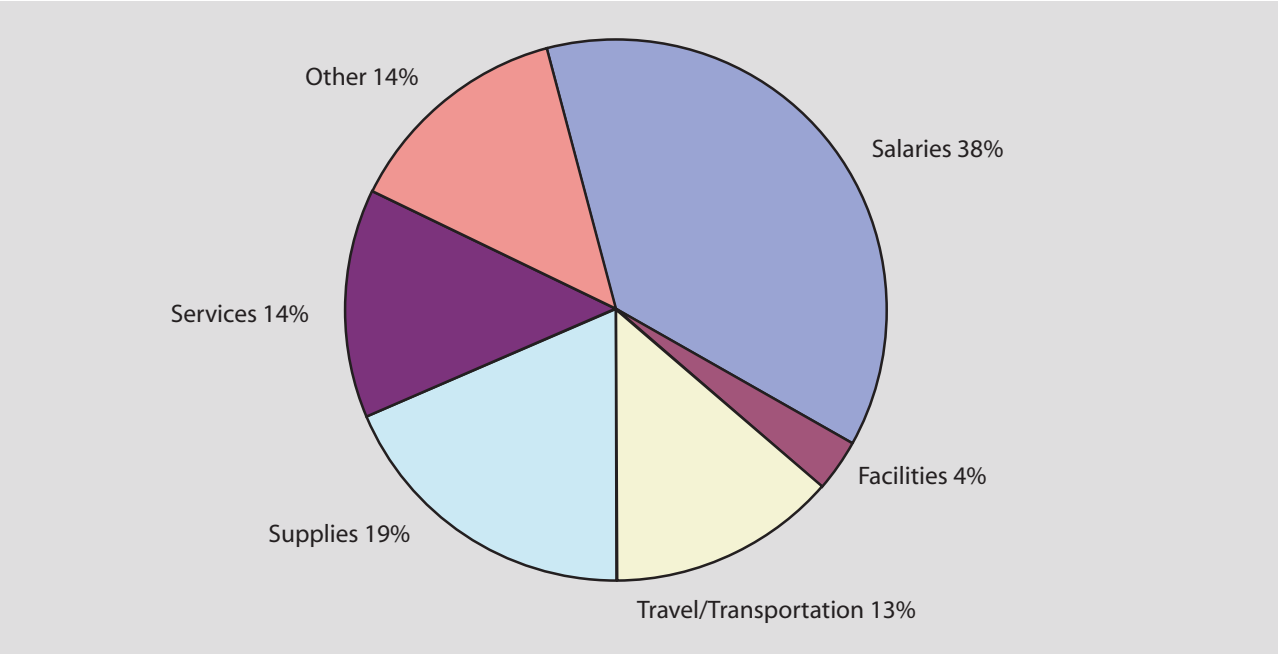
Several academies received supplemental funding not allocated through OASD/RA. This is down about 1% from last year. The total supplemental funding was $568,979; 22 out of 57 academies (39%) recieved these funds. The top three funding sources included state allocations ($219,600), grants ($107,914) and donations ($162,441).

Source of Supplemental Funding 2008
Exhibit 11



The largest supplemental funding expenditure was for additional personnel ($181,517), followed by supplies ($93,040) and then services ($68,384). As the price of fuel rises, it is expected that transportation will become one of the top three largest sources for supplemental expenditures.

Expenditures of Supplemental Funds 2008
Exhibit 12



CONSIDERATIONS

The following considerations are based on a comprehensive review of the DoD STARBASE program. This review included: 20 site visits; interviews with school administrators, base commanders and key program participants; an analysis by Vangent of pre- and post-program data from 3,279 students as well as 231 assessments by classroom teachers; and a questionnaire submitted by each academy director. These considerations should be viewed as an opportunity to improve the quality of operations and program content as the program continues to grow and expand.

OASD/RA can use these considerations when assessing each DoD STARBASE Academy's performance and aligning them in three progressive levels:

- **Level I** – Basic/fully operating academy: the first level of performance requires full compliance with the DoDI and compliance with operational requirements as stipulated by OASD/RA.
- **Level II** – Advanced performing academy: the second level of performance requires successful completion of Level I and the demonstration of activities that are not specifically outlined in the DoDI, but recommended by OASD/RA and standing committees as desirable for program delivery. Considerations include quality of service, participant group involvement, and program enhancements.
- **Level III** – High performing academy: the third level of performance is for academies that successfully meet the standards in Levels I and II and self-commit to activities that advance the core curriculum and DoD STARBASE philosophy. This would include the use of resources that result in positive review and testing for transportability to other academies. Operational enhancements, higher level problem-solving techniques, time-sensitive improvements and efficiencies would also be part of the Level III activities.

Fiscal

Considerations:

- Budget Management Plan – Consider requiring each academy to design a budget management plan that identifies potential areas of financial concern and the development of a contingency plan for potential budget short-falls. Consider the design of an impact assessment plan on the operations, staffing and program delivery if budgets are reduced by levels of 5, 10, 15 and 20%. This assessment plan should identify program capability, program adjustments, alternative plans and contingencies at each level, and, finally, the proactive and reactive plans of action anticipated under each of the variant conditions.

- Program Budget Reviews – Consider requiring the directors to review their budget expenditures every two months and pro-rate them over the program year to identify any potential short-falls and/or surpluses. Have them develop corrective action and/or adjustment plans to bring budget projections in line with annual budget plans. If adjustments or corrective action are identified, they should be reported in the two-month program reports and copies provided to service managers.

- Personnel Model Review – Consider having each academy review and construct manpower requirements that reduce the impact of budget over-runs when turnover and annual budget planning are conducted. The personnel model needs re-examination as well as position level entry recruitment postings. Each academy needs to consider staff replacement strategies caused by budget constraints and funding increases, as well as performance expectations for each staff member. Waivers on the use of the highest grade level at point of hire and step level replacement needs to be reviewed and signed off by the service manager and approved by OASD/RA.

- Strategic Objectives - Identify areas where enhanced value resources and services can produce positive outcomes for program delivery and content that are not currently funded.

- Cost Assessment of Curriculum - Consider the application of a cost assessment process in the introduction of a new curriculum application and technological utilization program prior to installation commitment.

Program Operations

Considerations:

- National Strategic Objective Plan – Consider developing a strategic objective plan that outlines desired outcomes, action steps and results that can apply to all academies and end users. This task may be delegated to one of the DoD STARBASE committees.

- Academy Self-Assessment Program – Consider the design and installation of an academy assessment program that is compatible and supportive of the activities associated with the compliance visitation process. The assessment should be conducted prior to the actual visitation. It would expedite the visit and help identify key areas of program operation, record and document updates, DoDI adherence requirements and the development of plans of action to rectify and/or outline corrective action. This process should develop anticipatory plans for program enhancements to reach high performance objectives (i.e., performance indicators for Level II and III). In addition, timely submission of the annual director's survey would be obtained.

- Program Operations Transfer of Leadership Plan – Consider the development of a program operations transfer of leadership plan by each academy. All academy documents, scheduling commitments, list of contact names, addresses and telephone numbers, property inventories, personnel records, strategic plans, budgets and financial records, board minutes and other documents relative to program operations should be compiled in a plan that can be readily transferred from one director to another. When leadership transfer is conducted, the new director, after review of the materials, should sign off on the documents availability and completeness.

- Equipment Upgrade Requirements – Consider an academy-wide equipment review to identify upgrades that are essential to the timely and effective delivery of the program as well as to assist in the training of instructors. This should be linked to the consideration on "front-end analysis," budget planning and program installation. All of these factors need to be addressed at each academy and forwarded to the service manager.

- Title One/"Children-at-Risk" Annual Review – Consider an annual review and assessment of each academy's ability to reach the target population. Each academy needs to review the surrounding school demographics and identify "high priority" school systems. If the "high priority" schools are not involved in program delivery within a year, the academy should document actions conducted to rectify their lack of involvement and the status of those recommended actions. In addition, if "high priority" schools are in abundance, identify how the academy provides equity in sharing admittance to program to each school, i.e., rotating schools, establishing queues, etc.

- Establish a Staff Development and Staff Personnel Plan – Consider a staff development and staff personnel plan that specifies training requirements.

Curriculum

Considerations:

- Front-end Analysis and Beta Testing of New Curriculum – Consider the application of front-end analysis and beta-testing of all newly introduced curriculum changes before full academy-wide installation. The front-end analysis should consider installation plans and training aid requirements. Beta-testing should also involve a cross-section of academy locations and service components.

- Programs Designated as "Outreach Programs" – Consider the designation of all non-fifth grade programs as "outreach programs" after this program year. The outreach programs will be recorded under that taxonomy but not considered part of the DODI requirement, nor the demographics in reaching "at-risk" students in the annual report. Data will be collected on all activities but separated under those considered "required" and "optional." The concentration of a specific grade level, promotes the efficacy and ease of new curriculum initiatives, program installation, instructor training, testing and cost-effectiveness of program development.

- Review of Innovative and Enhanced Curriculum Initiatives – Consider documenting and presenting for consideration to the curriculum review committee, new program initiatives and enhanced applications for Level II and III assessment along with an introduction to academy-wide transportability and Website sharing.

- Meeting Venues – Consider utilizing existing meeting venues to conduct staff training (i.e., Director Conferences, curriculum upgrades, regional meetings, etc.) to reduce costs and apply piggy-back training applications.

- Embedded Curriculum – Consider an assessment and review of "embedded curriculum" applications. As new curriculum is introduced, academies are embedding and cross training core areas into other topical areas beyond team-building, experiential and math. These adjustments should be documented and shared within the DoD STARBASE web site and training sessions.

- Applying New Technologies – Consider the review and potential application of new technologies in program delivery beyond the use of PTC and apply these in core curriculum areas.

Compliance

Considerations:

- Meeting Minimal DoDI requirements and the Use of "Probationary Period" – Consider having a "probationary period" for those academies that are in the process of obtaining full DoDI minimal requirements. Most academies are in this category during the initial installation period, but after two years the majority meets the requirements. However, after a two-year period of probation, if the academy is not meeting basic standards, a detailed plan of action should be structured to realize the basic objectives with scheduled dates of completion for these items, and over the next program year OASD/RA will review and assess, along with the service representative, the need for its continuation.

- Formal Written Plan of Corrective Action – Consider having all directors who have corrective action requirements resulting from a compliance visit prepare a written plan of corrective action, along with their base commander and service representative and submit that plan to OASD/RA. The corrective action plan should include as much detail as possible along with the anticipated date of completion. The approved document would be forwarded by OASD/RA to the base commander, service representative and the academy director. Academy directors would then submit bi-monthly reports to OASD/RA until all the corrective actions have been completed. The academy director would then forward a written report to his/her service representative and OASD/RA on its successful completion and their assessment of continued compliance.

Data Collection

Consideration:

- Teacher Assessment Questionnaires – Consider the development of an academy quota for Teacher Assessment Questionnaires to increase the number of participant teacher respondents to at least 50%. The current procedures of electronic transfer of assessments has led to fewer respondents. Conducting paper/electronic assessment during the last day of instruction should be encouraged to capture this extremely important group in the assessment process.

2008 STUDENT AND TEACHER ASSESSMENT

Testing Instruments and Applications

The standardized tests used by DoD STARBASE were first developed in 2001 and have been refined over the years. Two standardized testing instruments are used to measure student performance at DoD STARBASE academies. One test focuses on the student's knowledge and skills related to the concepts and content presented. The other test assesses pro-social, citizenship, curricula and community awareness attitudes.

The program constructs used in the assessment process include test items on:

- Knowledge, skills and problem-solving presented in the DoD STARBASE core curriculum.
- Attitudes toward math, science and technology.
- Citizenship, community awareness and pro-social behavioral perception.
- Attitudes toward the military, (ie., personnel, environment and careers).
- Perception of DoD STARBASE experiences and effectiveness.
- The program's impact on students and their future behavioral decisions.

There are three test items that are used in the knowledge and attitudinal post-tests to assess rating scale reliability and the student's understanding of the scales used in each of the tests. These items are not applicable to pre- /post-comparative analysis. Analysis of these test items indicate that students do understand the differences in the rating process and the use of scales and are not confused about this application.

To develop a single standardized test for a wide range of abilities presents a number of challenges in design and application. There are now 57 operating academies across the United States and its territories. Each academy presents diverse cultural and geographical differences. This includes at-risk student composition, special need students, school size and class requirements, state curriculum requirements, available resources at the local level, funding, enrollment policies, curriculum emphasis and demographic composition. Differences in skill levels that students bring to the program further confound testing design and assumption. A prime example is gravity. Pre-tests indicate that some students arrive with a good understanding of gravity and its applications while others require a quick primer on the concept and its use in problem solving. Several other concepts are similarly affected. Another challenge is the discretion given to each academy in the emphasis in covering the core curriculum. Variations across academies in curriculum presentations include: lab applications, the use of base and community resources to demonstrate real-life applications and teacher variances in emphasizing key concepts.

To reduce these variations, the test design concentrates on the fifth-grade at-risk student population; the core curriculum content; and the design of test items at the middle-ability level. Core concepts such as experiential applications, team-building and embedded math are key modalities used in program design, as is the administrative makeup of academy operation. In short, standardization in key concepts are applied across academies.

Changes in selected test items and word use have occurred over the life of the program and are field tested and item analyzed on the degrees of difficulty before they are added to the test. The number of test items, content emphasis and coverage, rating scales and analytical approach is maintained and is of constant concern in application. The design goal is to create as much standardization and continuity in test design as possible while positioning for trends and

changes in curriculum content. Each instrument is annually reviewed for readability and reliability. Student and teacher assessment instruments were changed for this year's testing. For the student instrument three items were added and wording refinements were made on two other items. The teacher survey had several new items added.

Knowledge and Skills Assessment

Currently all academies are teaching computer-assisted design using PTC software and its applications. Twenty assessment items were field-tested this past year in order to assess the students' learning of these new concepts. Three items were added to the FY 2008 assessment out of this item pool to bring the total number on the student knowledge test assessment to 33. Item analysis indicated that these three items provide the pre- to post-discriminates needed to maintain a degree of difficulty. The added items are:

- "If the diameter of the circle shown below is 10 feet, what is the radius?"
- "Which of the following best shows the alignment of horizontal objects?"
- "What is the largest surface of the six foot plate?"

The knowledge and skills test evaluates eleven of the thirteen core curriculum areas. They include the following:

- Properties and states of matter
- Properties of air
- Bernoulli's Principle
- Four forces of flight
- Aircraft controls, surfaces and components
- Newton's laws of motion
- Space exploration
- Development, innovation and use of technology
- Avoiding substance abuse
- Goal-setting
- Teamwork

The test is designed on a four point scale. Test questions apply true/false, multiple choice and matching words to images. There is at least one test item for each of the core curriculum areas with most having multiple coverage given the embedded nature of several items (i.e. math). Some items are simple knowledge constructs while others apply concepts that require problem solving and/or application to other constructs.

Student Attitudinal Assessment

The student attitudinal assessment measures several key program objectives: positive attitudes about self, life choices, citizenship, problem-solving, social responsibility and team-building. The attitudinal assessment test is administered at the same time as the knowledge test on a pre-and post basis. Analysis focuses on attitudinal shifts correlated with program participation along several dimensions such as: gender comparisons, pre- and post comparisons, regional differences and other control factors. All twenty three attitudinal items are used in both the pre- and post-tests.

Attitudinal and perceptional constructs used in the test include:

- Attitudes toward math, science and technology.
- Perceptions about the military, military personnel, the military environment and military careers.
- Community awareness, citizenship and social responsibility.
- Program effectiveness and program impact on self, student and others.

All attitudinal test items apply a seven-point scale from strongly agree to strongly disagree with graphic-enhancing rating directions (i.e., positive and negative faces).

Instrument Review Process

Tests and assessment instruments are reviewed and revised on an annual basis. This review includes all operational and participant data collection instruments. Field personnel, professional testing staff and participant groups are encouraged to suggest improvements and revisions. These inputs range from test item revision, test administration procedures and sample size to empirical constructs changes. While the suggestions are modest, they have been helpful and useful. Periodic item analyses and curriculum content changes produce instrument alterations as well as policy formulation. Test item size, construct coverage, item integrity and the use of trend and comparative analysis over program time periods are inhibitors of radical changes in the size and content of the instrument changes. However, over the life of the assessment process, the accumulation of incremental modifications and instrument design improvements have proved positive in developing a reliable instrument. The annual review process is essential to good assessment strategy.

The following considerations guide instrument modifications:

- Balancing test item difficulty with a range from easy to difficult items is essential. DoD STARBASE students enter the program at different levels of background knowledge and skill on the curriculum concepts. The range of test item difficulty provides a pre-program baseline to measure shifts in post-program improvement.
- Changes in the core curriculum and program constructs drive the requirement for changes and additions on test items while maintaining the degree of item difficulty and content coverage.
- Continual review of core curriculum coverage requires the rotation of new and/or past test items with similar degrees of difficulty in the instrument design with a view toward balanced coverage of content and degree of difficulty. This often requires rotating new and old test items on an annual or occasional basis.
- Replacing some knowledge-only test items with questions requiring conceptual and/or problem-solving applications of basic core concepts.

Using these guidelines the FY 2008 test added three new items on computer-aided design and revised the wording of two others. Field beta testing and item analysis guided these changes.

Data Collection, Administration and Logistics

Data collection was administered during the late winter and early spring of 2008. Data collection instruments were sent to the academies with instructions for administration, sample size, matching requirements, scheduling and submissions for a timely analysis. Matched data on students was obtained from all 55 operating academies and three outreach programs on a pre- /post- basis. 6,882 student tests were administered with 3,279 obtained on a matching basis for a 95.3% matching efficiency percentile. This was a marked improvement over the previous two years which was at the lower 92% level. There were 257 more matched tests than over last year.

This sample is representative of the total student population attending the 2007-2008 program school year. Most academies conduct their own testing of all students on a pre- /post- basis and develop analytical reports to submit to their participant members on a normative basis. The national test uses a sample format to reduce the intrusiveness of testing on academy scheduling and instructional time. Academies have been very responsive in data collection requirements on student testing.

Test administration instructions include guidance on sample size, scheduling and general rules on test administration integrity. Instructors are asked to give the test prior to the start of the program and upon program completion. Once students finish the test, instructors review it for completion, identification of academy location, student matching number assignment, class affiliation and other matching requirements. Test results are then sent to Vangent for scoring, processing and analysis.

The large number of matched respondents (3,279 at 95.3% of matching) indicates that the majority of students responded to most or all of the items. A few academies missed matching on a small sample of the attitudinal test but this amounted to less than five percent. The pre-test scores indicate that students come into the program with a wide range of knowledge and skill abilities which suggests that some of the DoD STARBASE concepts were not unique prior to their program entry. However, the pre-program assessment establishes a normative baseline from which the students can be assessed on shifts across the construct continuum. The analysis does support, as it has in the past, the suggestion that the knowledge and skill scores demonstrate a significant increase upon completion of the program. This year was no exception.

Analytical Approach

The focus on pre- and post-program assessments of student performance is to document knowledge/skill shifts that correspond to program exposure. Several analytical constructs are use to demonstrate which factors influence differential shifts on the pre-post program comparisons:

- age and grade
- gender differences
- test item difficulty
- program strengths
- maturity of academy operation
- high performers verses low performer differences

- difference and trends in performance over time
- identifying "drivers" of preferred student outcomes
- branch of service and regional comparisons

Attitudinal analysis mirrors the above approach. In addition it includes:

- prior experiences with the military
- comparisons by gender
- comparisons with teacher attitudes along similar constructs
- site location comparisons
- attitudinal clusters
- trends over time and dramatic shifts

The data analysis takes into account the above comparisons and some additional desired constructs. The results reveal a wide array of variance in student responses to the curriculum, program delivery and academy site location. Demographic differences of the respondents and the site location of the academies demonstrate the variances most dramatically in the analysis. Differences between academies are a relative constant in demonstrating differences in performance. With over 55 academies now in operation, students come to DoD STARBASE with different skills and knowledge and finish the program with new insights and skills. The strengths and weaknesses of the program emerge out of the analysis and provide insight and observation for program considerations and recommendations in program delivery, curriculum content and operations. This permits the consumers and the program participants to build on the program's effectiveness, remediate operational shortfalls and redesign program delivery and content. In these terms the analysis provides both an assessment of program effectiveness but also applied operational considerations for program improvement.

Student Assessment

Student respondents who matched in the FY 2008 pre- /post- assessment analysis were demographically comparable with the FY 2007 population. Other than an increase in sample numbers, the results on demographic profiles were similar to these over previous years. While there were a few incomplete tests, they did not significantly influence the analytical results of the sample size configuration.

As in previous years, the student population in gender was almost evenly split between boys at 50.4% and girls at 49.5%. Most of the students were from the fifth grade and were 10-11 years old. All geographic regions were well represented and the majority of schools had a high percentage of students participating in the free/reduced lunch programs.

Student Knowledge and Skills Results

The FY 2008 pre- and post-test scores on the knowledge and skills test have a +5.61 gap mean score. This is the second highest gap mean score over the past seven years and was obtained with the highest pre-test mean score over that same time period (20.62). This mean score is somewhat skewed in that three new PTC items were added to the 33 item test. The gap score difference obtained between pre- and post-test results remain significant. Post-test mean scores were about 2 points above the previous year (see Exhibit 13).

Pre/Post Knowledge Test Mean Scores 2002–2008

Exhibit 13

Scores	2002	2003	2004	2005	2006*	2007	2008
Pre-Test Mean	18.44	19.12	19.09	17.81	18.02	19.05	20.62
Post-test Mean	22.67	24.42	24.25	23.28	24.08	24.31	26.23
Mean Increases	+4.23	+5.30	+5.16	+5.47	+6.06	+5.26	+5.61

*2006 mean scores were adjusted because of higher item numbers.

A significant number of the 3,279 students had a good and basic understanding of several of the concepts taught at DoD STARBASE, particularly concerning team-building, goal-directed behaviors and the impact of using drugs or alcohol (see Exhibit 14). However, there are many concepts that appeared new to most of the students. The post-test scores indicate that while the students knew some of the concepts prior to their participation in DoD STARBASE, they generally did not have the depth of knowledge taught at DoD STARBASE. This pre-program assessment provides a strong foundation and baseline for analytical and operational objectives both within and beyond the DoD STARBASE program. The scores on all constructs demonstrate that participation in the program resulted in a statistically significant increase in the student's understanding and application of the program's constructs.

Entry-level (pre-test) scores, which are the base line from which shifts in performance are measured, demonstrate the less familiar concepts for students at the start of the program. The composite chart (Exhibit 14) on pre-/post- knowledge test results demonstrates positive shifts across all items. Even items that were high upon entry displayed positive and significant increases at the end of the program. However, items that were less well known at the start of the program had much larger increases as shown by the item regarding air pressure which increased from 29% to 76%. This item had the same gap score as last year.

Pre/Post Knowledge Test Percent Correct

Exhibit 14

Test Item	Pre-test % Correct	Post-test % Correct	+/-% Change
Which of the following is not a team?	96	99	+3
Negative actions may make it hard for you to reach your goals	92	95	+3
Which of the following can damage an individual's dreams?	90	94	+4
If you have something you want to do, or something you want to be in life, you should…	89	96	+7
Wing	86	94	+8
Which planet has more than 30 moons and thousands of rings?	82	89	+7
Cockpit	80	96	+16
Drinking alcohol may decrease our bodies' ability to do easy things	80	87	+7
The Earth is the closest planet to the sun	79	89	+10
Force that pulls an aircraft down	79	88	+9
Matter does not take up space	78	88	+10
What is the largest surface of the 6 foot plate?	74	88	+14
If you launched two rockets, one with a mass of 50 grams and one with a mass of 100 grams, using the same amount of force, which rocket would go highest?	71	87	+16
Forward movement produced by a propeller, jet, or rocket engine	70	84	+14
Which planet do humans believe they could inhabit in the future?	67	84	+14
Elevator	67	80	+13
Rudder	64	79	+15
Slows the forward movement of an aircraft	62	82	+20
The development of something new or improvement of something already existing is	63	77	+14
Produced by air flow over the wings and the angle of the wing into the wind	58	82	+24
How thick is the earth's atmosphere?	56	75	+19
Technology usually decreases in cost after many units are sold.	52	75	+23
If you are landing an airplane in a city that is 5,000 feet above sea level and your altimeter reads 5,500 feet, how many feet are you above the ground?	50	69	+19
Which of the following best shows the alignment of horizontal objects?	50	69	+19
What scientific law is operating that makes it important to wear a seat belt?	50	73	+23
In what state of matter do molecules have the least amount of energy or motion?	48	70	+22
To move an airplane's nose to the left, you would move the…	42	60	+18
What force causes a rocket to launch?	41	56	+15
If the diameter of the circle shown below is 10 feet, what is the radius?	37	59	+22
The air is composed mostly of what element?	31	68	+27
What is the smallest particle of water?	30	59	+29
Air presses down 14.7 pounds on every inch of our bodies. Why don't we feel this pressure?	29	76	+47
One reason an airplane is able to gain lift is because the air moving across the top of the wing	28	55	+27

The three engineering design and manufacturing related items, which also have embedded characteristics, had significantly high positive post test scores (14, 19, and 22 percentile increases from pre- to post- tests). Overall, there was an increased relationship in lack of knowledge at program entry and positive increases in pre- post- test score differences, i.e., the lower your score at entry, the higher your post test score.

Mean Score on Post-Program Knowledge Test 2003 - 2008

The mean post-program score for this year's knowledge test is 26.23 out of a 33-item test which means that the average student's post test scores were just shy of 80% (79.5%). Last year's average mean score was 24.31 for an 81% average student score on a 30-item test, but more significantly the gap score for this year's student performance was +5.61 as compared to +5.26 in 2007. This year's student body demonstrated greater improvement from point-of-entry to post-program performance.

Mean Scores on Post-Program Knowledge Test 2003-2008
Exhibit 15

Year	2003	2004	2005	2006	2007	2008
Post Mean Score	24.42	24.25	23.28	24.08*	24.31	26.33

*2006 scores were adjusted on mean because of higher item numbers.

Mean Scores on Pre-Post Program Knowledge Test 2007-2008
Exhibit 16

Program Year	Pre-test Mean Score	Post-test Mean Score	Average Score	Gap Score
2007	19.05	24.31	81.0%	+5.26
2008	20.62	26.23	79.5%	+5.61

Gender Differences on Knowledge Test

Females have demonstrated strides in academic achievement on the DoD STARBASE tests over the life of the program. The differences in gap scores, while still favoring the girls (see exhibit 17), was not as dramatic as last year's knowledge test gap score.

Pre- and Post-Program Knowledge Test 2008
Mean Scores by Gender
Exhibit 17

Sample Size	Pre-Test Mean Score	Post-Test Mean Score	Individual Gap Difference
Boys (N=1635)	20.99	26.36	+5.37
Girls (N=1612)	20.22	26.02	+5.80

Females improved their post-test scores more than the male students by .43 or gap differences of +5.37 for boys and +5.80 for girls. For boys this was an improvement over last year where their gap score was +5.09. The girls' gap score was a bit lower than last year's gap score of +5.81. Girls' gap scores have been higher than boys over the past five years (see Exhibit 18).

Boys score slightly higher in both of the pre- and post- tests but girls demonstrate greater improvement in correspondence to program participation as demonstrated by the gap scores over time. This gender difference has been maintained over the past five years in both knowledge and attitudinal scores.

Gender Knowledge Test Improvement (2004-2008)
Exhibit 18

Gender	2004 Knowledge Test Gap Score	2005 Knowledge Test Gap Score	2006 Knowledge Test Gap Score	2007 Knowledge Test Gap Score	2008 Knowledge Test Gap Score
Boys	+5.08	+5.33	+5.6*	+5.09	+5.37
Girls	+5.25	+5.64	+6.1*	+5.81	+5.80
Difference	.17	.31	.49	.72	.43

*2006 mean scores were adjusted because of higher item numbers.

Knowledge Test Performance by Length of Academy Operation

To conduct this analysis, three groups were developed to assess the differences that may occur as a result of the maturity of the academy's time in operation. The "mature group" consists of academies that started between 1991 and 1996. The second group, the "established academies," started operations between 1998 and 2001. The third group, entitled "new academies," originated between 2002 and 2007. The sample sizes in student numbers were 1,181, 954, and 1,144 respectively. In the analysis of the knowledge test scores, differences emerged across the groupings with the newer academies demonstrating higher post-test and gap scores. The post-test scores were significantly different across the three groups (see Exhibit 19).

Knowledge Test Mean Scores by Length of Academy Operation 2008
Exhibit 19

Length of Operation	Sample Size	Pre-Test Score	Post-Test Score	Gap Score
Mature academies (1991 – 1996)	1,181	20.64	25.56	+4.92
Established academies (1998 – 2001)	954	20.49	26.40	+5.91
New academies (2002 – 2007)	1,144	20.67	26.66	+5.99

Explaining these differences requires examining the age of operation categories to document delivery, adherence to core curriculum applications and other operational and behavioral considerations. For example, do new academies adhere to core curriculum applications more rigorously and/or do more mature ones start to develop new applications in delivery?

High Verses Low Performers by Knowledge Test Performance

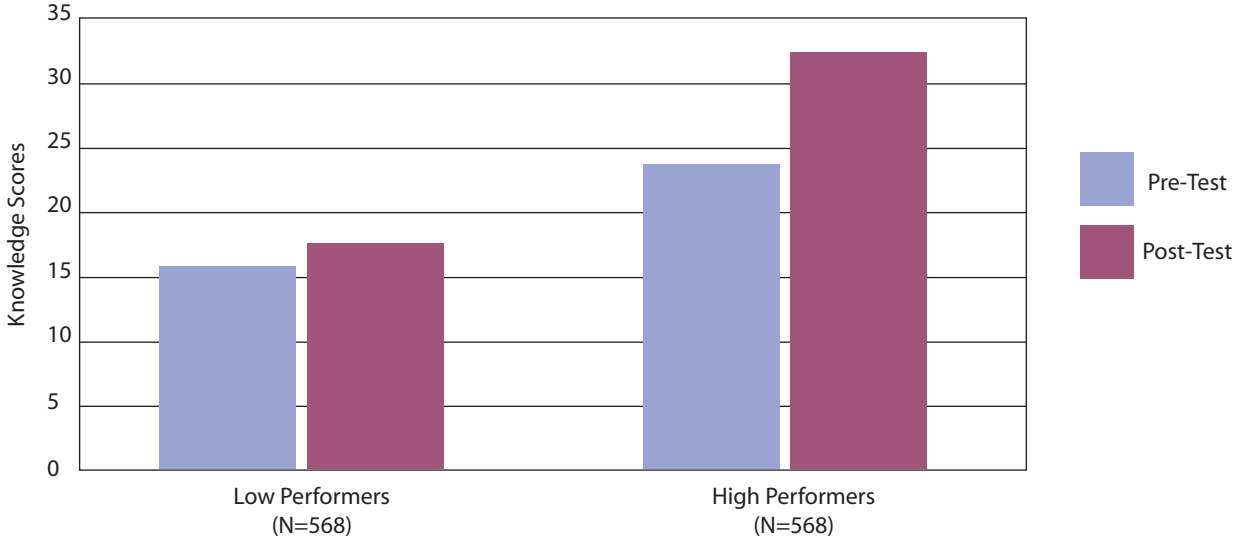
A difference in test scores between low performers and high performers was examined to assess how the program effected each population in test performance. The construct used to differentiate low versus high was one standard deviation plus or minus the mean. These students with post-test scores less than or equal to two were designated as low performers and those with post-test scores greater than or equal to 31 were considered high performers. Low performers accounted for 17% of the sample while high performers obtained 20%.

Low performers scored low on both the pre-test and the post-test and their gap score was less than two points (+1.94) while the high performers improved between the two tests by more than eight points (+8.12). Attitudinal scores demonstrated this same observation as well. Military branch affiliation displayed some interesting observation. The Navy and Air Force had disproportionally high percentages of high performers compounded by the Air Force's disproportionately low percentage of low performers. Combining this with the Marines and National Guard students possessing a high percentage of low performers, the performance scores in gap differences will be manifested by those academies who fall into those service arm affiliations. Further examination on specific test item scoring may be useful for those academies servicing higher and/or lower performance groups in their delivery formats and methodologies.

There were some gender differences. More boys tended to fall into the high performer groups than girls, 54.2% for boys compared to 45.7% for the girls. Given the overall normative scores on testing for girls and boys, the proportions in these high-low constructs suggest the need for some further investigation in future analysis.

These figures under this high-low performer construct demonstrate that the DoD STARBASE program has its most profound impact on the higher performers as revealed in the knowledge gap score of +8.12. This observation may suggest some remedial attention to those who are identified in the low performance construct with additional assistance and further intervention. The differences between the two groups are stark. At this time, the program does not identify or separate students through performance tests but focuses on groups and gross normative data.

High Performers Versus Low Performers
Exhibit 20



Student Attitudinal Results

The 2008 attitudinal assessment involved 3,245 students who successfully completed both the pre- and post- program attitudinal questionnaires. While the paired numbers increased by more than 200 students over last year, there was a number of academies that did not complete all of the dual pairing requirements. However, the sample was significant enough to be representative of the DoD STARBASE academies. The pre-program responses were very positive with an average mean score of 5.84 on a seven point rating scale. This was higher than the FY 2007 results (5.75). More than a third of the students (34.8%) rated the 23 items above the 6+ level; while all of the remaining items ranked above the 5+ level (one item is used for control and reliability on rating applications).

High ratings on the pre-program assessment suggest that students enter the program with positive and high expectations about the program, trying new things and overall positive views about their future. This high rating at program entry has been consistent over the past several years. The program's reputation in the school systems and the students' eagerness to participate in a new experience pushes the pre-program ratings at the high level. These high ratings at program entry reduce the range of improvement in the rating system but the data demonstrates a significant improvement, with 60% of the post test ratings above the 6+ level and a post mean average of 6.06. The ratings this year in the pre- and post- assessments and overall mean scores were higher than FY 2006 and FY 2007.

Post-Program Attitudinal Ratings

After the completion of the DoD STARBASE program, the students have a more favorable attitude about the overall program, the military, science and themselves (see Exhibit 22). Almost all items have significant favorable increases from pre-program ratings. The data supports the view that the program experience promotes a positive shift in students' attitudes towards themselves, their future, trying new things, the military and team building. The top thirteen rated attitudinal items in the post-program assessment had score ratings above 6.0 on a seven-point scale. The ratings on the first five items were the same over the past three years, although some differences in ranking did occur.

Highest Ranked Post-Program Attitudes (2006-2008)
Exhibit 21

Item	2006 Rank	Mean	2007 Rank	Mean	2008 Rank	Mean
DoD STARBASE instructors are kind and helpful.	1	6.61	2	6.51	1	6.61
At DoD STARBASE, I learned a lot of things that I can use. (Post only)	3/4	6.51	4	6.46	2	6.55
I think I can graduate from high school.	2	6.53	1	6.54	3	6.54
You can learn a lot by trying things.	3/4	6.51	3	6.47	4	6.51
I think about what I want to be when I grow up.	5	6.36	5	6.39	5	6.36
I am enjoying coming to a military base.	6	6.28	8/9	6.23	6	6.31
Military people do lots of different things.	7	6.26	8/9	6.23	7	6.28
I like to make new things.	8	6.24	7	6.25	8	6.27
I would tell my friends to come to DoD STARBASE. (Post only)	11	6.14	12	6.07	9	6.23
I can make my dreams come true.	9	6.21	6	6.28	10	6.23
You can have fun working in a group.	10	6.20	10	6.11	11	6.19
I like to think of new ways to use things.	15	6.00	13	6.06	12	6.10
I set goals for myself.	12	6.14	11	6.09	13	6.05
You can accomplish a lot in a group.	13	6.11	14	5.98	14	6.05
Learning can be fun.	14	6.03	15	5.93	15	6.02

All of the items demonstrated positively from pre-program attitudes. Two items that dropped out of the top fifteen in 2007 re-emerged in 2008, i.e., "you can accomplish a lot in a group" at 5.98 and "learning can be fun" at 5.93 in 2007. Both were above 6.00+ in 2008. Overall, the 2008 scores were higher for the top 15 items than over the past two years; although the ratings for all three years are high when you consider these ratings are pointed on a seven-point scale.

Significant Shifts in Student Attitudes

Mean scores in attitudes over the past several years are relatively stable as demonstrated by the percentage shifts from pre-program mean scores to post-program mean scores. Most are relatively close, but a few bear mentioning. While there is little room for dramatic shifts given the small differences, any movement can be meaningful and useful to staff instructors and managers of the program. The shifts this year are slightly lower than last year but this may be a function of a higher average mean score overall for 2008. The shifts ranged from +.39 to +.12 for the top fifteen items.

2008 Attitude Shifts from Pre- to Post-Program

Exhibit 22

Shift Ranking	Attitudinal Item	Pre-Program Mean	Post-Program Mean	% Shift
1	Military bases are fun.	5.52	5.93	+.39
2/3	I am enjoying coming to a military base.	5.97	6.31	+.34
2/3	I can make my dreams come true.	5.89	6.23	+.34
4	DoD STARBASE instructors are kind and helpful.	6.29	6.61	+.32
5	I am good at science.	5.23	5.50	+.27
6/7/8/9	I like science.	5.58	5.76	+.18
6/7/8/9	Learning is easy for me.	5.30	5.48	+.18
6/7/8/9	You can accomplish a lot in a group.	5.87	6.05	+.18
6/7/8/9	The military is a good place to work.	5.16	5.34	+.18
10	I make good decisions.	5.66	5.83	+.17
11	I am good at math.	5.20	5.36	+.16
12	Military people do lots of different things.	6.13	6.28	+.15
13/14	Learning can be fun.	5.88	6.02	+.14
13/14	I set goals for myself	5.91	6.05	+.14
15	I think I can graduate from high school.	6.42	6.54	+.12

Shifts in Military Attitudinal Items

The charts above and below demonstrate that DoD STARBASE has a pronounced impact on student perceptions and attitudes about the military as a consequence of program attendance. It appears that the experiences on the base and the interactions with military personnel prove to be a positive and reinforcing activity. These same shifts are mirrored over the past several years.

Attitudinal Shifts on Military Related Items 2006-2008

Exhibit 23

	2006		2007		2008	
Military Attitudinal Item Pre-Post	Shift	Rank Pre-Post	Shift	Rank Pre-Post	Shift	Rank
Military bases are fun.	+.43	2	+.46	1	+.41	1
I am enjoying coming to a military base.	+.31	4	+.37	2	+.34	2/3
The military base is a good place to work.	+.24	6	+.32	5	+.18	6/7/8/9
Military people do lots of different things.	+.20		+.21		+.15	12

These attitudinal items are primarily derived from experiential activities and observations rather than contact-related activities. Contact on base proves to be a positive experience for most of the students and is not content driven by the instructors. These items ranked in the top amongst 26 topical constructs.

Math and Science Attitudinal Ratings

Math and science attitudinal scores demonstrate improvement at the completion of the DoD STARBASE program. Three of the four math/science items ranked in the top eleven in the percentage shift increases for this program year. While the mean pre-post ratings and rankings were relatively low compared to other attitudinal items, the topics displayed significant and out-of-program improvement. All four items were on the lower ranking levels with ratings ranging from +5.32 to +5.50 on the seven point scale.

2008 Math and Science Attitudinal Mean Scores

Exhibit 24

Math and Science Attitudinal Item	Pre-Program Mean	Post-Program Mean	Gap Score
I like science.	+5.58	+5.76	+.18
I am good at science.	+5.23	+5.50	+.27
I am good at math.	+5.20	+5.36	+.16
I like math.	+5.25	+5.32	+.07

Post-Program Student Attitudinal Assessment (2004-2008)

As in past years, the post-program assessment scores were significantly higher than the pre-test score on all attitudinal items. Overall, the scores across the past few years have not shifted dramatically nor significantly increased in the normative attitudinal mean score on all items. 2008 did match the highest post-mean score during the five year period with a 6.06 rating.

2004-2008 Attitudinal Pre- Post Mean Scores

Exhibit 25

Composite Attitudinal Mean Scores	2004	2005	2006	2007	2008
Pre-Test Mean Score	5.78	5.83	5.81	5.75	5.84
Post-Test Mean Score	5.97	6.06	6.05	6.00	6.06
Score Shift +/-	+.19	+.23	+.24	+.25	+.22

The post-program means have remained relatively stable over the past five years and are quite positive across all item areas. Most differences are about 0.1 in magnitude and the standard deviations from prior year's results are small; however small differences should be examined in terms of the direction they move and thus become meaningful to the DoD STARBASE staff and practitioners e.g. group ("team") oriented activities have tended to diminish in ratings over the five year period.

Post-Program Attitudes 2004-2008[7]
Exhibit 26

Post-Program Attitudes	2004 Mean	2005 Mean	2006 Mean	2007 Mean	2008 Mean
I like math.	5.33	5.39	5.25	5.16	5.32
I am good at math.	5.26	5.35	5.28	5.36	5.36
I like science.	5.67	5.78	5.72	5.65	5.76
I am good at science.	5.43	5.50	5.53	5.42	5.50
I am good at following directions.	5.70	5.79	5.82	5.74	5.78
Learning is easy for me.	5.55	5.54	5.48	5.49	5.48
Learning can be fun.	6.15	6.12	6.03	5.93	6.02
You can learn a lot by trying things out.	6.51	6.57	6.51	6.47	6.51
I think I can graduate from High School.	6.47	6.54	6.53	6.54	6.54
Military people do lots of different things.	6.29	6.30	6.26	6.23	6.28
I set goals for myself.	6.07	6.07	6.14	6.09	6.05
I make good decisions.	5.73	5.79	5.86	5.72	5.83
DoD STARBASE instructors are kind and helpful.	6.54	6.54	6.61	6.51	6.61
I can make my dreams come true.	6.17	6.23	6.21	6.28	6.23
You can accomplish a lot in a group.	6.29	6.10	6.11	5.98	6.05
You can have fun working in a group.	6.34	6.24	6.20	6.11	6.19
I like to make new things.	6.29	6.36	6.24	6.25	6.27
I think about what I want to be when I group up.	6.38	6.37	6.36	6.39	6.36
The military is a good place to work.	5.40	5.40	5.38	5.25	5.34
I am enjoying coming to a military base.	6.35	6.30	6.28	6.23	6.31
Military bases are fun.	6.01	5.93	5.94	5.84	5.93
I do not think DoD STARBASE will help me do better in school.*	N/A	1.97	1.98	1.97	1.94
I like to think of new ways to use things.	6.17	6.13	6.00	6.06	6.10
At DoD STARBASE, I learned a lot of things that I can use.	6.53	6.53	6.51	6.46	6.55
DoD STARBASE is boring.*	1.56	1.64	1.55	1.68	1.59
I would tell my friends to come to DoD STARBASE.	6.21	6.15	6.19	6.07	6.23

*Due to the non-favorable wording, higher mean values reflect lower endorsement levels when reverse scoring is applied. These items are designed for reliability in rating usage and understanding of the rating scales.

Gender Comparisons and Attitudinal Difference

Gender differences between boys' and girls' attitudinal perceptions are significant and more pronounced than other analytical constructs. Girls possess higher pre/post mean scores than boys. On individual items the girls possess significantly more positive scores on the majority of preference items. On the post-score ratings girls were significantly more positive in twelve items while the boys were significantly more positive on one (i.e., "I am good at math.")

Girls expressed more positive attitudes on items reflecting confidence in the educational process, in improving their lives and also in pro-social factors; while boys had more positive attitudinal scores on math, science and the military.

7 Items in italics are no longer used.

Gender Differences on Pre-/Post-Attitudinal Mean Assessment
Exhibit 27

Gender	Sample Size*	Pre-Program Mean	Post-Program Mean	Performance Gap
Boys	1,310	5.86	6.04	+.18
Girls	1,284	5.90	6.13	+.23
Mean Difference		.04	.09	.05

*Includes only those cases where complete survey responses were obtained for matching, i.e., responses to all survey items. Roughly 250+ respondents were lost for each gender group for incomplete survey responses.

Post-Program Rank Order on Attitudinal Differences by Gender
Exhibit 28

Attitudinal Item	Girls' Rank	Girls' Mean	Boys' Rank	Boys' Mean
DoD STABASE instructors are kind & helpful.	1	6.67	1	6.56
I think I can graduate from high school.	2	6.64	4	6.43
You can learn a lot by trying things.	3	6.58	3	6.44
At DoD STARBASE, I learned a lot of things that I can use.	4	6.55	2	6.55
I think about what I want to be when I grow up.	5	6.50	8	6.23
I can make my dreams come true.	6	6.31	10	6.15
I like to make new things.	7/8	6.30	7	6.25
I am enjoying coming to a military base.	7/8	6.30	5	6.32
I would tell my friends to come to STARBASE.	9/10	6.28	9	6.19
Military people do lots of different things.	9/10	6.28	6	6.27
You can have fun working in a group.	11	6.24	11	6.14
I set goals for myself.	12	6.20	14	5.91

On the top-ranked items, there is agreement on the first four but not necessarily in similar order. Both girls and boys had higher scores than last year and the most highly ranked item scored higher. Girls indicated a higher score on military items than previous years while boys moved up on the pro-social items. Boys generally had higher rankings on military-related items.

The highest gap score on attitudinal items for girls i.e. largest increase from pre- to post- ratings, was "military bases are fun" while the boys highest gap increase was "I can make my dreams come true." The gap scores were +.42 and +.36 respectively. The differences between girls and boys were significantly variable across many items but, on average for the pre- and post-ratings there were four areas of agreement:

- I like math.
- I am good at science.
- Military people do lots of different things.
- I like to think of new ways to use things.

The data suggests that both genders have variant perceptions on several attitudinal dimensions and instructors should be cognitive of gender differences when designing the learning experience.

Prior Experience with the Military

The data indicates that students who had prior military experience were more positive on seventeen of the items in the attitudinal assessment on both sides of the pre/post applications. Their attitudes about the military, personal abilities and aspirations were higher than the students with no exposure to the military. Knowledge scores were similarly effected with higher scores for both girls and boys who had prior military exposure. The "prior experience" sample group was the majority of school attendees with 1,851 as compared to 1,367 for the students with no prior contact.

Student: Prior Knowledge of DoD STARBASE

Students who indicated that they "heard about DoD STARBASE before I knew I was coming here" had limited impact in attitudinal differences. In previous years, the positive differences ran along their futures, abilities and the military. These differences essentially washed out this year. Most of the student respondents had prior knowledge of the program (70%). Once a program becomes installed in a community and the school system becomes a participant, the DoD STARBASE reputation becomes strongly developed and well-established. These items had positive and significant different means for the prior knowledge group on "graduating from high school," "setting goals" and "observing that military people do lots of different things". Each of these items was in last year's positive inventory of attitudes.

Age and Grade Impact on Attitudes

The correlations between age and grade with attitudinal items in the pre/post attitudinal assessment were present in the analysis but the margins were very small and there was little to tie-in any themes or trends. One consistent item that carried over from previous findings was that older students were less positive in their attitudinal responses than the younger students. It was suggested in prior years that this observation may be a function of the younger group's unabashed enthusiasm and the corresponding lower enthusiasm by the older group but the consistency of the finding over the years should caution the reader that the finding is a bit more than an artificial artifact. Age considerations may provide a basis for looking at why fifth graders start their slide at this grade in national testing in math, science and reading. Attitudinal issues that become less positive during this period may have a leveling effect but, at the same time, STARBASE students regardless of age demonstrate positive changes at the post-program experience.

Academy Location and Student Attitudes

If any indicator displays differences in performance data, the leading construct is that of an academy's location. With the 57 operating academies reporting in the survey, site location produced more differences and variations than any other analytical construct. It appears that the experiences for students, teachers and other participants relates to the specific programs that are presented at each academy. There are, consistently, more variations than commonalities in the results side of the assessment. While core curriculum standards are presented in the DoDI (student hours, the number of classes, operational requirements, testing and general expectations); it appears that the delivery of material, the intensity given to topics and methodologies, environmental experiences and most of all, the variances in the student demographics, pushes this factor to prominence in differentiating results.

The one constant result is that all academies display positive and consistent results in attitudinal and knowledge testing. The variances are in degree and in specific content areas which suggests that each academy should examine their own scores with the normative standards across the academies. In this fashion, they should obtain a profile of their program emphasis and relative shortfalls.

On another analytical level related to location, constructs were developed to collapse locations of the academies into five regions, i.e., east, southeast, midwest, south and west, to see if differences persist or changed. Some of the differences cancelled out but most remained. It appears that differences are location-specific rather than region-specific. The Southeast and East displayed more positive results than the remaining regions. The South obtained the highest post-program knowledge score.

Military Service Branches and Attitudes

Military service affiliations produce statistically significant differences on items related to math, science and learning. As was noted in the knowledge test results, the branch affiliation produced variations. Post-program scores for Air Force and Navy are slightly higher than the other branches. Topical item differences by branch are quite prominent which probably is related to curriculum emphasis. As with academy differentiation, it is suggested that examination of program profile with the overall normative data may prove useful in understanding program content delivery and emphasis as well as examining lower scores for upgrading to normative or above. (See Student Post-Program Responses Percent Correct by Branch in the Appendices).

Differences in Attitudes by Academy Age

As we presented in the knowledge test analysis, we developed three academy groups based on years in operation i.e. mature (1989-1996), established academies (1998-2001) and new academies (2002-2007). While there does not appear to be a consistent trend by any of the academy age group typologies of possessing more positive attitudes, military items and personal skills seem to be the most variant across each of the typologies. The knowledge test scores were different for each group but the summative differences on attitudinal results were not as definitive.

STUDENT ASSESSMENT SUMMARY

FY 2008 produced continued positive performance in both the knowledge/skills tests and in the attitudinal performance assessments. DoD STARBASE produces positive shifts in pre/post program impact. The results are similar to past years even with increases in the number of knowledge item constructs. All assessment items in each of the assessment tools demonstrated significant increases. While differences in some of the constructs displayed variances such as gender, length of academy operation and branch of service affiliation, the academy's site location proved to bring about greater variation in test scores and attitudinal perceptions than any other analytical construct.

On the results level, the academies are more alike, it is when explanations of what may produce differences on those results that each academy produces a different profile in emphasis and in the result scores. This suggests that each academy, even with a common core curriculum and standardized tests display different results. Emphasis, methodologies, lab applications and instructional application are probably the explanation. The analysis suggests that each academy examine their results with the normative data provided in this report for high and low differences from the norm. Such an examination should provide some insight into areas that require attention, balance and coverage of key concepts.

TEACHER ASSESSMENT

Classroom teachers are one of the key participant members in the DoD STARBASE program. They are often the individuals who decide to participate in the program once their school districts become a sponsor. Once they bring their students into the program, the vast majority become frequent advocates and repeats their involvement in subsequent years. This population is a veteran group in terms of teaching experience with more than 80% having taught for five years or more and 36% having fifteen or more years in the profession. This experience level along with their professional development credentials provide this assessment analysis another "expert system" dimension in looking at the program as both user and as critical evaluator.

Teachers attend all classes as monitors and facilitators in program delivery. They are expert observers of their students' behavior, performance and attitudes both before and after program participation. They, therefore, are a critical eye on what changes take place in student performance both during the program and back in their school environment. Many,

because of their long-term involvement, observe the downstream results of the DoD STARBASE experience on their students. They understand the applications of the DoD STARBASE methodology, curriculum teacher aids and teaching constructs in delivery, i.e., "hands-on," experiential, etc. In addition, they are very aware of how state and national standards are met for student performance and future testing. In these and other areas of program delivery, content, methods, student responses and results, they serve as "experts" and/or a panel of experts for this program.

The 2008 teacher assessment obtained 231 teacher responses. More than two-thirds (67.5%) teach fifth grade and another 13.5% are special education teachers, teaching assistants or school administrators. Thus, well over 80% of the respondents are linked to the target grade level. Close to 80% have five or more years of teaching experience and 36% had fifteen years or more in the profession. The majority were familiar with the military and the base operation and almost half as a result of DoD STARBASE activities. The sample size of teacher respondents was slightly higher than last year but since this group is such an essential part of the assessment process, special efforts need to be made to increase the number of respondents. New items were added this year to the assessment process to obtain the degree to which teachers use DoD STARBASE materials in their classroom; initial source and awareness of the program; fit with state and national standards; and their endorsement of the program to other educational professionals.

TEACHER ASSESSMENT RESULTS

The overall 2008 teacher attitudinal assessment ratings were positive and similar to previous evaluations with an overall mean score of 6.12 which was higher than the last two years' assessment. Over the last six years, this year's ratings were above the average mean score of 6.10 of the last six years. The chart below illustrates the ratings from 2003-2008 on a seven point scale.

Mean Ratings of Teacher Attitudinal Assessment (2003-2008)
Exhibit 29

Year	2003	2004	2005	2006	2007	2008
Overall Mean Rating	6.10	6.15	6.18	6.00	6.08	6.12

Teachers give high ratings on all items. On the seven-point scale the range of ratings runs from 6.81 to 5.14. On 36 items, 23 or 64% were rated above 6. The ratings indicate that the teachers highly value the DoD STARBASE experience for themselves, their students, the students' families and the upgrading of skills in math and science. The teachers' responses to several new items and their high ratings indicate they use DoD STARBASE materials and methodologies in their classrooms and promote DoD STARBASE curriculum into home assignments. Teachers are particularly strong in their endorsement of the program to fellow professionals (83.5%) and the program's content and concepts fit in reaching state requirements (at 95.7%).

Teacher Assessment of STARBASE Materials
Exhibit 30

Item	Number of Responses	%
Use DoD STARBASE materials/applications in own classroom.		
Yes	156	67.5%
No	74	32.0%
Use DoD STARBASE for home assignments.		
Yes	149	64.5%
No	81	35.1%
Recommend STARBASE to other teachers, principals, or school systems.		
Yes	193	83.5%
No	38	16.5%
Does DoD STARBASE content and concepts help reach your state requirements?		
Helps reach requirements	221	95.7%
Indirectly meets state requirements	9	3.9%
Doesn't fit with state requirements at all	1	0.4%

The view of teachers as advocates and agents of change in the school system is reflected in several items in the teacher survey and the ratings were high. The teachers' attitudinal survey indicates that they believe students' views about science and math are more positive after attending DoD STARBASE since both items were highly rated (i.e., 6.46 and 5.70 respectively). While both ratings were higher than previous years, math made the more dramatic increase as the following chart suggests.

Math and Science Mean Student Ratingsby Classroom Teachers
Exhibit 31

Item	2003	2004	2005	2006	2007	2008
More interested in learning about math.	5.33	5.58	5.51	5.39	5.43	5.70
More interested in learning about science.	6.43	6.44	6.41	6.39	6.37	6.46

A new item in the attitudinal portion, "I look forward to my classes continued participation in the DoD STARBASE program" was the second highest rating at 6.79 which is close to all teachers giving it a 7 rating. Only "the children enjoy sharing their DoD STARBASE experiences with others" was higher at 6.81. This observation indicated that students are a key endorser of the program to their peers and school staff.

Comparing this year's attitudinal ratings with the past five years, many of the items are generally comparable which give some credence that the teachers do make content specific distinctions on the items. One item, the teacher's desire to continue program participation was a new item in the assessment and pushed others down in rank order. With minor shuffling on rank order, the top 14 items remained the same.

Highest Teacher Ratings over a Five-Year Period (2004-2008)
Exhibit 32

Stem Item	2004	2005	2006	2007	2008
The children enjoy sharing their DoD STARBASE experience with others.	6.74	6.68	6.68	6.70	6.81
I look forward to my classes continued participation in the DoD STARBASE program.	New Item	New Item	New Item	New Item	6.79
The DoD STARBASE experience will be a positive influence on students in coming years.	New Item	6.70	6.68	6.68	6.76
The DoD STARBASE instructors are good role models for the students.	6.75	6.72	6.68	6.61	6.76
DoD STARBASE reinforces many positive behaviors I try to teach my students.	6.71	6.67	6.63	6.64	6.70
The students talk about DoD STARBASE long after the program has ended.	6.57	6.53	6.47	6.47	6.62
The students admire their DoD STARBASE instructors.	6.59	6.58	6.49	6.45	6.60
The DoD STARBASE curriculum supports our state standards.	6.75	6.63	6.60	6.64	6.59
The STARBASE experience has been a positive influence on my personally.	New Item	6.65	6.59	6.64	6.58
The students enjoyed being on a military base.	6.70	6.52	6.37	6.38	6.50
DoD STARBASE has helped improve the students' understanding of science.	6.40	6.52	6.41	6.38	6.46
More interested in learning about science.	6.44	6.41	6.39	6.37	6.45
Parents are delighted that their children are participating in DoD STARBASE.	6.52	6.48	6.49	6.43	6.43
My principal is a strong advocate of DoD STARBASE.	6.27	6.37	6.34	6.30	6.33

In rank order, with the exception of the new item introduced this year on "continuation," there was only one item that dropped down and was replaced by "The students talk about DoD STARBASE long after the program has ended." The general ranking is amazingly stable and consistent. Teachers rate the program's influence on them, the principals, parents and students in the top fifteen.

The next teacher analysis on the assessment focuses on teacher perceptions about the student's experiences. Teachers are in general agreement with students on several comparable items: the program offers positive pro-social advantages; opportunities to build and maintain self-esteem; and a "can do" attitude. Students' attitudes about their ability in math and science are lower than the teachers; however, teachers rate the student's interest and understanding, and math relatively high.

Correlations were conducted on teacher characteristics such as years of teaching experience, experience with DoD STARBASE and grade level to determine if there were any significant trends. The correlations that emerged were similar to previous years in that teachers with more experience reported that their students appeared to be more positive, have more pro-social attitudes, more interest in math and science and work together. These teachers who had more DoD STARBASE experiences are more likely to have students talk about the program long after the program has ended; but they also are less positive about the DoD STARBASE program's support of state standards.

TEACHER ASSESSMENT SUMMARY

As previously indicated the teachers are an important participant group in the DoD STARBASE program as advocates, agents of curriculum and materials transfer, influencers of program expectations to students, reinforcers of lessons learned and for the assessment process. They form a critical expert panel group on program effectiveness and downstream impact. Their candid input on what works and what doesn't needs to be utilized more by program operations. Teachers' long term observations and perceptions need to be captured by a standardized assessment tool.

The data indicates that teachers share many of the students' perceptions and experiences. The teachers have higher expectations on several issues. The "can do," pro-social, self-esteem and the enjoyment of learning are clearer correlations. Ratings are higher this year than the last few. Their advocacy and sense of the value of DoD STARBASE is very strong and users are very interested in future participation. Teachers are users of DoD STARBASE curriculum and materials and their advocacy extends to high recommendations to fellow educational professionals. Math and science expectations are higher this year than the past two years. Most teachers believe that DoD STARBASE fulfills state and national program and testing requirements.

DRIVERS OF OPINION

Each year the report identifies a set of related attitudinal clusters on the student population which the report entitles "drivers of opinion." For example, when an item, which we designate as the "driver", is present, the analysis then identifies the set of attitudes that are also present; or in reverse, when the list of attitudinal items are present, the target "driver" attitude will also be present. For the practitioner, the item may be of interest in priority-building in their delivery strategies and the associative items will identify those that will support and/or be effected by the intervention. A similar set of "drivers" are also available for the teacher population.

One important caution is that post-program opinion averages may be strongly influenced by knowledge test results, e.g., lower performers on knowledge tests and similar lower attitudinal results in the item area. Perceptions and/or opinions under this analysis are important because other attitudinal perceptions cluster together.

Student Drivers of Opinion

Drivers of "At DoD STARBASE, I learned a lot of things that I can use."

Post responses, n=2684

DoD STARBASE is boring.
You can learn a lot by trying things.
I am enjoying coming to a military base.
DoD STARBASE instructors are kind and helpful.
I like to think of new ways to use things.
I think about what I want to be when I grow up.
I like science.

Driver: "I would tell my friends to come to DoD STARBASE."

Post responses, n=2684

DoD STARBASE is boring.
DoD STARBASE instructors are kind and helpful.
The military is a good place to work.
I like to think of new ways to use things.
I think about what I want to be when I grow up.
I am enjoying coming to a military base.
You can learn a lot by trying things.

Driver: "I can make my dreams come true."

Post responses, n=2676

I set goals for myself.
I think I can graduate from High School.
You can accomplish a lot in a group.
I think about what I want to be when I grow up.
I make good decisions.
I am good at science.
I do not think DoD STARBASE will help me do better in school.

Driver: "Military bases are fun."

Post responses, n=2622

I am enjoying coming to a military base.
The military is a good place to work.
I like to make new things.
You can have fun working in a group.

Driver: "Military people do lots of different things."

Post responses, n=2678

The military is a good place to work.
You can learn a lot by trying things.
I think I can graduate from High School.
I set goals for myself.
I am enjoying coming to a military base.

Driver: "Learning can be fun."

Post responses, (n=2672)

You can learn a lot by trying things.
I like math.
Learning is easy for me.
You can have fun working in a group.
I like science.
DoD STARBASE is boring.
I like to think of new ways to use things.

TEACHER DRIVERS OF OPINION

Teacher perceptions are similar, in many ways, as the students but the combinations have some interesting mixes because of some of the differences in item construction. Teachers as well as practitioners should examine the fit as well as the differences.

Teacher Driver of Opinion

Driver: "More comfortable with military personnel."

All respondents, (n=231)

Because of my participation in DoD STARBASE, I am more comfortable with military personnel.
More comfortable making decisions.
The students enjoyed being on a military base.
The students ask more questions about technology.

Driver: "DoD STARBASE has helped improve the students' understanding of science"

Post responses, (n=231)

DoD STARBASE has helped to improve appreciation of how math can be applied to a variety of situations.
More interested in learning about science.
The students admire their DoD STARBASE instructors.
The students talk about DoD STARBASE long after the program has ended.
The DoD STARBASE curriculum supports our state standards.
The DoD STARBASE experience has been a positive influence on me personally.

Driver: "More interested in learning about math."

All respondents, (n=231)

DoD STARBASE has helped to improve appreciation of how math can be applied to a variety of situations.
More willing to try new things.
More interested in learning about science.
Better at following directions.

Driver: "DoD STARBASE reinforces many positive behaviors I try to teach my students."

All respondents, (n=231)

DoD STARBASE has helped improve the climate for participative learning in the classroom.
The DoD STARBASE instructors are good role models for the students.
The children enjoy sharing their DoD STARBASE experiences with others.
I would like more DoD STARBASE resources to take back to my classroom.

Driver: "The DoD STARBASE experience will be a positive influence on students in coming years."

All respondents, (n=231)

The DoD STARBASE experience has been a positive influence on me personally.
The DoD STARBASE instructors are good role models for the students.
The children enjoy sharing their DoD STARBASE experiences with others.
The students enjoyed being on a military base.

Driver: "More excited about their futures."

All respondents, (n=231)

More comfortable making decisions.
More excited about learning.
The students ask more questions about technology.
More confident about what they can accomplish.

Driver: "I look forward to my classes' continued participation in the DoD STARBASE program"

All respondents, (n=231)

The students admire their DoD STARBASE instructors.
The DoD STARBASE curriculum supports our state standards.
The DoD STARBASE experience has been a positive influence on me personally.
I would like more DoD STARBASE resources to take back to my classroom
DoD STARBASE has helped to improve appreciation of how math can be applied to a variety of situations.
The DoD STARBASE instructors are good role models for the students.
After DoD STARBASE attendance, there is increased participation in the Science Fair.
I have included many DoD STARBASE resources in my curriculum.

DoD STARBASE IS DESIGNED TO REACH STUDENTS AT THE FIFTH GRADE LEVEL. IT IS AT THE FIFTH GRADE THAT U.S. STUDENTS BEGIN TO DROP IN INTERNATIONAL RANKINGS IN MATH AND SCIENCE. THE GOAL IS TO BUILD SKILLS IN THOSE CRITICAL AREAS AND TO MOTIVATE STUDENTS IN STEM OBJECTIVES AS THEY PROCEED IN THEIR ACADEMIC CAREERS.

APPENDICES

U.S. REGIONAL MAP

YEARLY COMPARISONS FOR STUDENT POST-PROGRAM ATTITUDES

STUDENT POST-PROGRAM RESPONSES BY BRANCH

YEARLY COMPARISONS OF TEACHER ATTITUDINAL ASSESSMENT

TEACHER PERCEPTIONS COMPARED TO STUDENT PERCEPTIONS

PRE-FLIGHT AND POST-FLIGHT QUESTIONNAIRE

DoD STARBASE TEACHER QUESTIONNAIRE

2008 DIRECTOR'S QUESTIONNAIRE

GLOSSARY

STATISTICAL FORMULAS

US REGIONAL MAP

West
Washington
Montana
Oregon
Idaho
Wyoming
California
Nevada
Utah
Colorado
Hawaii
Alaska

South
Arizona
New Mexico
Oklahoma
Texas
Arkansas
Louisiana
Puerto Rico

East
Maine
New Hampshire
Vermont
Pennsylvania
New York
Rhode Island
Connecticut
New Jersey
Delaware
Maryland
District of Columbia
Massachusetts

Midwest
North Dakota
South Dakota
Nebraska
Kansas
Minnesota
Iowa
Wisconsin
Illinois
Michigan
Indiana
Ohio
Missouri

South East
West Virginia
Virginia
Kentucky
Tennessee
Mississippi
Alabama
Georgia
Florida
North Carolina
South Carolina

YEARLY COMPARISONS FOR STUDENTS POST-PROGRAM ATTITUDES

Post-Program Attitudes	2008 Mean	2007 Mean	2006 Mean	2005 Mean	2004 Mean
I like math.	5.32	5.16	5.25	5.39	5.33
I am good at math.	5.36	5.36	5.28	5.35	5.26
I like science.	5.76	5.65	5.72	5.78	5.67
I am good at science.	5.50	5.42	5.53	5.50	5.43
I am good at following directions.	5.78	5.74	5.82	5.79	5.70
Learning is easy for me.	5.48	5.49	5.48	5.54	5.55
Learning can be fun.	6.02	5.93	6.03	6.12	6.15
You can learn a lot by trying things out.	6.51	6.47	6.51	6.57	6.51
I think I can graduate from High School.	6.54	6.54	6.53	6.54	6.47
Military people do lots of different things.	6.28	6.23	6.26	6.30	6.29
I set goals for myself.	6.05	6.09	6.14	6.07	6.07
I make good decisions.	5.83	5.72	5.86	5.79	5.73
DoD STARBASE instructors are kind and helpful.	6.61	6.51	6.61	6.54	6.54
I can make my dreams come true.	6.23	6.28	6.21	6.23	6.17
You can accomplish a lot in a group.	6.05	5.98	6.11	6.10	6.29
You can have fun working in a group.	6.19	6.11	6.20	6.24	6.34
I like to make new things.	6.27	6.25	6.24	6.36	6.29
I think about what I want to be when I grow up.	6.36	6.39	6.36	6.37	6.38
The military is a good place to work.	5.34	5.25	5.38	5.40	5.40
I am enjoying coming to a military base.	6.31	6.23	6.28	6.30	6.35
Military bases are fun.	5.93	5.84	5.94	5.93	6.01
I do not think DoD STARBASE will help me do better in school.*	1.94	1.97	1.98	1.97	N/A
I like to think of new ways to use things.	6.10	6.06	6.00	6.13	6.17
At DoD STARBASE, I learned a lot of things that I can use.	6.55	6.46	6.51	6.53	6.53
DoD STARBASE is boring.*	1.59	1.68	1.55	1.64	1.56
I would tell my friends to come to DoD STARBASE.	6.23	6.07	6.19	6.15	6.21

* Due to the unfavorable wording, higher mean values reflect lower endorsement levels when reverse scoring is applied.

COMPARISON OF ATTITUDES BY BRANCH

Large differences between groups may be indicative of differences in curriculum content. The post-program total scores for Air Force and Navy are slightly higher than the other branches. The differences across items could be an indication that some programs are teaching to the test for the more difficult questions or that the topic areas are emphasized more in certain branches. The items in bold have significantly different percents correct across the branches.

Student Post-Program Responses Percent Correct by Branch

	Air Force (n = 211) %Correct	Air Force Reserves (n = 248) %Correct	Marines (n = 115) %Correct	National Guard (n = 1901) %Correct	Navy (n = 804) %Correct
Drinking alcohol may decrease our bodies ability to do easy things	94%	83%	81%	87%	87%
Matter does not take up space	89%	95%	85%	86%	88%
The Earth is the closest planet to the sun	94%	87%	88%	89%	88%
Negative actions may make it hard for you to reach your goals	99%	96%	96%	95%	94%
Technology usually decreases in cost after many units are sold	81%	70%	71%	74%	77%
What is the smallest particle of water?	67%	56%	63%	52%	75%
What force causes a rocket to launch?	67%	49%	57%	56%	56%
Which of the following is NOT a team	100%	97%	98%	98%	99%
How thick is earth's atmosphere?	74%	54%	70%	78%	76%
Air presses down 14.7 pounds on every inch of our bodies. Why don't we feel this pressure?	82%	80%	70%	75%	78%
The air is composed mostly of what element?	72%	79%	62%	67%	69%
Cockpit	96%	96%	95%	97%	95%
Wing	93%	92%	97%	94%	92%
Elevator	79%	68%	87%	80%	81%
Rudder	79%	69%	81%	81%	79%
If you are landing an airplane in a city that is 5,000 feet above sea level and your altimeter reads 5,500 feet, how many feet are you above the ground?	73%	69%	65%	67%	73%
To move an airplanes nose to the left, you would move the	59%	67%	52%	57%	67%
One reason an airplane is able to gain lift is because the air moving across the top of the wing	52%	54%	53%	54%	57%
Produced by air flow over the wings and the angle of the wing into the wind	85%	80%	83%	82%	81%
Force that pulls an aircraft down	93%	86%	94%	89%	85%
Forward movement produced by a propeller, jet, or rocket engine	90%	81%	83%	85%	84%

Slows the forward movement of an aircraft	84%	81%	83%	84%	79%
If you launched two rockets, one with a mass of 50 grams and one with a mass of 100 grams, using the same amount of force, which rocket would go highest?	95%	90%	80%	85%	90%
Which planet has more than 30 moons and thousands of rings?	95%	87%	84%	89%	88%
Which planet do humans believe they could inhabit in the future?	94%	82%	73%	85%	80%
The development of something new, or improvement of something already existing is	83%	79%	76%	75%	79%
If you have something you want to do, or something you want to be in life, you should	98%	99%	93%	95%	95%
Which of the following can damage an individual's dreams?	98%	96%	88%	94%	94%
What scientific law is operating, that makes it important to wear a seat belt?	82%	68%	63%	75%	70%
In what state of matter do molecules have the least amount of energy or motion?	80%	62%	65%	70%	71%
If the diameter of the circle shown below is 10 feet, what is the radius?	58%	65%	63%	55%	68%
Which of the following best shows the alignment of horizontal objects?	75%	62%	64%	68%	73%
What is the largest surface of the 6 foot plate?	92%	87%	77%	87%	90%
Post test score	**27.49**	**25.56**	**25.42**	**26.04**	**26.51**

YEARLY COMPARISONS OF TEACHER ATTITUDINAL ASSESSMENT (2005-2008)

	2008		2007		2006		2005	
	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation
	N = 231		N = 222		N = 374		N = 285	
More interested in learning about math	5.70	1.27	5.43	1.31	5.39	1.41	5.51	1.34
More interested in learning about science	6.45	0.83	6.37	0.91	6.39	0.98	6.41	0.93
More willing to try new things	6.13	1.08	6.05	0.98	6.11	1.07	6.05	1.07
Better at following directions	5.63	1.33	5.41	1.30	5.55	1.33	5.64	1.20
Better at working in groups	5.95	1.17	5.85	1.17	5.90	1.23	6.01	1.11
More confident about what they can accomplish	6.10	1.00	6.00	1.04	5.92	1.16	6.02	1.08
More goal oriented	5.79	1.15	5.66	1.16	5.67	1.30	5.78	1.11
More comfortable with military personnel	6.02	1.18	5.98	1.27	5.96	1.32	6.09	1.06
More comfortable making decisions	5.77	1.15	5.66	1.11	5.68	1.13	5.78	1.11
More excited about their futures	6.10	1.08	5.90	1.17	5.93	1.17	5.92	1.14
More excited about learning	6.06	1.09	5.97	1.08	5.98	1.14	6.11	1.03
More likely to encourage each other	5.91	1.15	5.83	1.12	5.89	1.20	5.96	1.13
More willing to cooperate with each other	5.92	1.16	5.86	1.09	5.93	1.20	6.03	1.11
The students ask more questions about technology	5.72	1.25	5.60	1.35	5.54	1.30	5.65	1.31
DoD STARBASE has helped improve the students' understanding of science	6.46	0.88	6.38	0.94	6.41	0.94	6.52	0.84
DoD STARBASE has helped to improve appreciation of how math can be applied to a variety of situations	6.07	1.12	5.93	1.18	5.91	1.24	5.97	1.12
DoD STARBASE has helped improve the climate for participative learning in the classroom	6.09	1.12	5.91	1.12	5.99	1.21	6.04	1.13
Because of my participation in DoD STARBASE, I am more comfortable with military personnel	5.90	1.47	5.85	1.39	5.91	1.50	6.03	1.36
The students talk about DoD STARBASE long after the program has ended	6.62	0.88	6.47	0.97	6.47	1.09	6.53	0.79
DoD STARBASE reinforces many positive behaviors I try to teach my students	6.70	0.64	6.64	0.80	6.63	0.88	6.67	0.73
I use the resources DoD STARBASE provides to teachers	6.04	1.38	5.98	1.43	6.05	1.41	6.15	1.21
I would like more DoD STARBASE resources to take back to my classroom	6.03	1.46	6.02	1.44	6.15	1.35	6.18	1.27
My principal is a strong advocate of DoD STARBASE	6.33	1.07	6.30	1.16	6.34	1.19	6.37	0.98
My school board is very involved in supporting DoD STARBASE	5.53	1.55	5.59	1.58	5.43	1.68	5.68	1.41
The DoD STARBASE instructors are good role models for the students	6.76	.69	6.61	0.98	6.68	.84	6.72	0.76

	2008		2007		2006		2005	
	Mean	**Std Deviation**	**Mean**	**Std Deviation**	**Mean**	**Std Deviation**	**Mean**	**Std Deviation**
	N = 231		**N = 222**		**N = 374**		**N = 285**	
I have included many DoD STARBASE resources in my curriculum	5.57	1.59	5.59	1.57	5.77	1.43	5.87	1.32
The students admire their DoD STARBASE instructors	6.60	0.85	6.45	1.02	6.49	0.98	6.58	0.87
The DoD STARBASE curriculum supports our state standards	6.59	0.90	6.64	0.86	6.60	0.94	6.63	0.80
The children enjoy sharing their DoD STARBASE experiences with others	6.81	0.53	6.70	0.80	6.68	0.78	6.68	0.71
Parents are delighted that their children are participating in DoD STARBASE	6.43	0.96	6.43	1.05	6.49	0.92	6.48	0.91
The students enjoyed being on a military base	6.50	0.99	6.38	1.15	6.37	1.25	6.52	1.01
The DoD STARBASE experience will be a positive influence on students in coming years	6.76	0.60	6.68	0.79	6.68	0.76	6.70	0.69
The DoD STARBASE experience has been a positive influence on me personally	6.58	0.95	6.64	0.93	6.59	0.90	6.65	0.76
Students that attend DoD STARBASE perform better on standardized state assessments	5.57	1.42						
I look forward to my classes' continued participation in the DoD STARBASE program	6.79	.65						
After DoD STARBASE attendance, there is increased participation in the Science Fair	5.14	1.58						

TEACHER PERCEPTIONS COMPARED TO STUDENT PERCEPTIONS ON SIMILARLY WORDED ITEMS

		Student Survey (post)	X	SD	Teacher Survey	X	SD
Math		I like math	5.32	1.88	More interested in learning about math	5.70	1.27
Math		I am good at math	5.36	1.63			
Math					Improve appreciation of how math can be applied to a variety of situations.	6.07	1.12
Math	Science	I am good at following directions	5.78	1.35	Better at following directions	5.63	1.33
Math	Science	Learning can be fun	6.02	1.46	More excited about learning	6.06	1.09
Math	Science	I make good decisions	5.83	1.24	More comfortable making decisions.	5.77	1.15
	Science	I like science	5.76	1.61	More interested in learning about science	6.45	.83
	Science	I am good at science	5.50	1.53	Improve the students' understanding of science	6.46	.88
	Science				After DoD STARBASE attendance, there is increased participation in the Science Fair	5.14	1.58
Technology	Science	I like to think of new ways to use things	6.10	1.29	More willing to try new things	6.13	1.08
Technology	Science	You can learn a lot by trying things	6.51	0.94			
Technology		I like to make new things	6.27	1.14	After DoD STARBASE, the students ask more questions about technology	5.72	1.25
	Military	Military people do lots of different things	6.28	1.10	Because of my participation at DoD STARBASE, I am more comfortable with military personnel	5.90	1.47
	Military				Students appear more comfortable with military personnel	6.02	1.18
	Military	I am enjoying coming to a military base	6.31	1.19	The students enjoyed being on a military base	6.50	.99
	Military	Military bases are fun	5.93	1.40			
	Military	DoD STARBASE instructors are kind and helpful	6.61	0.89	The students admire their DoD STARBASE Instructors	6.60	.85
	Military	The military is a good place to work	5.34	1.63	The DoD STARBASE Instructors are good role models for students	6.76	.67
Pro-Social Activities		Learning is easy for me	5.48	1.51			
Pro-Social Activities					DoD STARBASE has helped improve the climate for participative learning in the classroom	6.09	1.12
Pro-Social Activities					More confident about what they can accomplish	6.10	1.00
Pro-Social Activities		I set goals for myself	6.05	1.28	More goal oriented	5.79	1.15
Pro-Social Activities		I can make my dreams come true	6.23	1.28	More excited about their futures	6.10	1.08
Pro-Social Activities		I think about what I want to be when I grow up	6.36	1.21			

	Student Survey (post)	X	SD	Teacher Survey	X	SD
Pro-Social Activities	I think I can graduate from High School	6.54	0.98			
	You can have fun working in a group	6.19	1.23	More willing to cooperate with each other	5.92	1.16
	You can accomplish a lot in a group	6.05	1.29	Better at working in groups More likely to encourage each other	5.95 5.91	1.17 1.15
Impact Effectiveness	At DoD STARBASE, I learned a lot of things that I can use	6.55	0.98	The DoD STARBASE experience will be a positive influence on students in coming years	6.76	.60
	I do not think DoD STARBASE will help me do better in school	1.94	1.77			
	I would tell my friends to come to DoD STARBASE	6.23	1.36	The children enjoy sharing their DoD STARBASE experiences with others.	6.81	.53
	DoD STARBASE is boring	1.59	1.36	The students talk about DoD STARBASE long after the program has ended.	6.62	.88
				Students that attend DoD STARBASE perform better on standardized state assessments	5.57	1.42

Pre-Flight and Post-Flight Questionnaire

ASSIGNED STUDENT NUMBER						
0	0	0	0	0	0	0
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

My school grade is: 1 2 3 4 5 6 7 8 9

My age is: 0 0 1 1 2 3 4 5 6 7 8 9

I am a: ○ Boy ○ Girl

I have met military people before coming to STARBASE. N No Y Yes

I heard about STARBASE before I knew I was coming here. N No Y Yes

I know someone that went through STARBASE before me. N No Y Yes

For each statement, fill in True if you agree or fill in False if you disagree.

True	False	
T	F	**1.** Drinking alcohol may decrease our bodies' ability to do easy things.
T	F	**2.** Matter does not take up space.
T	F	**3.** Earth is the closest planet to the sun.
T	F	**4.** Negative actions may make it hard for you to reach your goals.
T	F	**5.** Technology usually decreases in cost after many units are sold.

6. What is the smallest particle of water?
- A a water molecule
- B a water atom
- C a water nucleus
- D a water drop

7. What force causes a rocket to launch?
- A lift
- B gravity
- C thrust
- D drag

8. Which of the following is NOT a team?
- A Fire Department
- B Police Force
- C Military Squad/Platoon
- D Wal-Mart customers

9. How thick is Earth's atmosphere?
- A About 10 miles
- B About 25 miles
- C About 40 miles
- D More than 50 miles

10. Air presses down 14.7 pounds on every inch of our bodies. Why don't we feel this pressure?
- A The atmosphere cushions the weight of the air.
- B Our bodies push out 14.7 pounds on every inch to equalize the pressure.
- C We are inside a building, so we don't feel it.
- D The air is thinner closer to the ground than up in space.

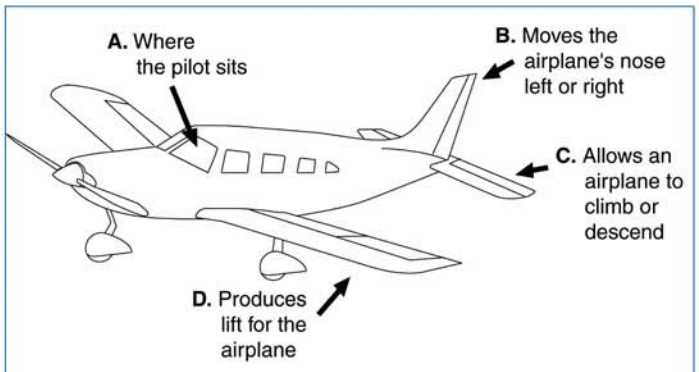
11. The air is composed mostly of what element?
- A hydrogen
- B helium
- C chlorine
- D nitrogen

Wait for your instructor to read the directions and questions.

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

Match each airplane component with the letters from the diagram below.



A B C D	
Ⓐ Ⓑ Ⓒ Ⓓ	**12.** Cockpit
Ⓐ Ⓑ Ⓒ Ⓓ	**13.** Wing
Ⓐ Ⓑ Ⓒ Ⓓ	**14.** Elevator
Ⓐ Ⓑ Ⓒ Ⓓ	**15.** Rudder

Select the best answer by filling in the appropriate circle.

16. If you are landing an airplane in a city that is 5,000 feet above sea level and your altimeter reads 5,500 feet, how many feet are you above the ground?

Ⓐ 500 feet
Ⓑ 1,000 feet
Ⓒ 5,000 feet
Ⓓ 5,500 feet

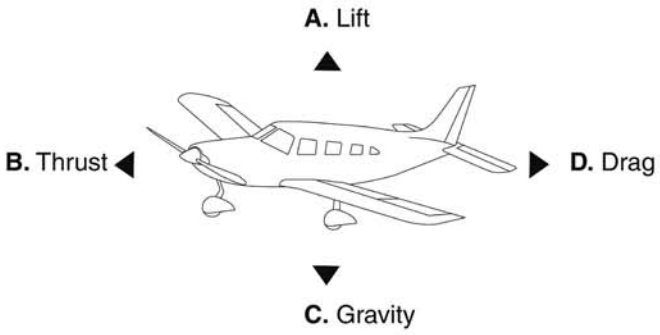
17. To move an airplane's nose to the left, you would move the....

Ⓐ rudder right
Ⓑ rudder left
Ⓒ left flap
Ⓓ right flap

18. One reason an airplane is able to gain lift is because the air moving across the top of the wing....

Ⓐ exerts less pressure than the air moving along the bottom.
Ⓑ exerts more pressure than the air moving along the bottom.
Ⓒ exerts the same amount of pressure as air moving along the bottom.
Ⓓ does not exert any pressure on the wing.

Match each force of flight with the letters from the picture below.



A B C D	
Ⓐ Ⓑ Ⓒ Ⓓ	**19.** Produced by air flow over the wings and the angle of the wing into the wind.
Ⓐ Ⓑ Ⓒ Ⓓ	**20.** Force that pulls an aircraft down.
Ⓐ Ⓑ Ⓒ Ⓓ	**21.** Forward movement produced by a propeller, jet, or rocket engine.
Ⓐ Ⓑ Ⓒ Ⓓ	**22.** Slows the forward movement of an aircraft.

23. If you launched two rockets, one with a mass of 50 grams and one with a mass of 100 grams, using the same amount of force, which rocket would go highest?

Ⓐ The heavier rocket would go the highest.
Ⓑ The lighter rocket would go the highest.
Ⓒ The two rockets would go the same height.
Ⓓ The heavier rocket would go twice as high as the lighter rocket.

24. Which of the following planets has more than 30 moons and thousands of rings?

Ⓐ Mercury
Ⓑ Pluto
Ⓒ Saturn
Ⓓ Earth

25. Which planet do humans believe they could inhabit in the future?

Ⓐ Mercury
Ⓑ Mars
Ⓒ Saturn
Ⓓ Neptune

Wait for your instructor to read the directions and questions.

26. What is the development of something new or improvement of something already existing?
- Ⓐ gravity
- Ⓑ inertia
- Ⓒ technology
- Ⓓ law

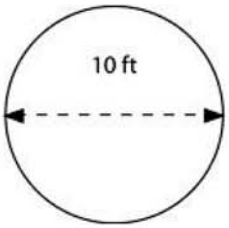
27. What should you do if you have something you want to do, or something you want to be in life?
- Ⓐ Wish for it really hard in order to make it come true.
- Ⓑ Watch other people on TV to see how they do it.
- Ⓒ Do something everyday that will help you reach your goal.
- Ⓓ Wait for someone to give you what you want.

28. Which of the following can damage an individual's dreams?
- Ⓐ setting goals
- Ⓑ using illegal drugs
- Ⓒ obtaining an education
- Ⓓ practicing a skill

29. What scientific law is operating, that makes it important to wear a seat belt?
- Ⓐ Newton's Law of Inertia which explains that the greater the mass of an object, the greater the force needed to accelerate it.
- Ⓑ Newton's Law of Inertia which explains that an object in motion will stay in motion unless acted upon by an outside force.
- Ⓒ Bernoulli's Principle which states that pressure decreases when air moves faster.
- Ⓓ Bernoulli's Principle which states that air moves faster when an object is curved.

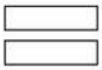
30. In what state of matter do molecules have the least amount of energy or motion?
- Ⓐ solid
- Ⓑ liquid
- Ⓒ gas
- Ⓓ plasma

31. If the diameter of the circle shown below is 10 feet, what is the radius?

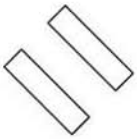


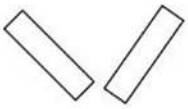
- Ⓐ 20 feet
- Ⓑ 15 feet
- Ⓒ 10 feet
- Ⓓ 5 feet

32. Which of the following best shows the alignment of horizontal objects?

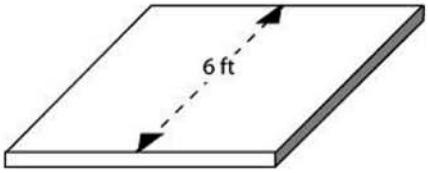
Ⓐ


Ⓑ

Ⓒ


Ⓓ


33. What is the largest surface of the 6 foot plate?



- Ⓐ Edge
- Ⓑ Face
- Ⓒ Axis
- Ⓓ Parts

Wait for your instructor to read the directions and questions.

What is your opinion?

	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	(?) Uncertain (4)	Slightly Agree (5)	Agree (6)	Strongly Agree (7)
1. I like math.	1	2	3	4	5	6	7
2. I am good at math.	1	2	3	4	5	6	7
3. I like science.	1	2	3	4	5	6	7
4. I am good at science.	1	2	3	4	5	6	7
5. I am good at following directions.	1	2	3	4	5	6	7
6. Learning is easy for me.	1	2	3	4	5	6	7
7. Learning can be fun.	1	2	3	4	5	6	7
8. You can learn a lot by trying things.	1	2	3	4	5	6	7
9. I think I can graduate from High School.	1	2	3	4	5	6	7
10. Military people do lots of different things.	1	2	3	4	5	6	7
11. I set goals for myself.	1	2	3	4	5	6	7
12. I make good decisions.	1	2	3	4	5	6	7
13. STARBASE Instructors are kind and helpful.	1	2	3	4	5	6	7
14. I can make my dreams come true.	1	2	3	4	5	6	7
15. You can accomplish a lot in a group.	1	2	3	4	5	6	7
16. You can have fun working in a group.	1	2	3	4	5	6	7
17. I like to make new things.	1	2	3	4	5	6	7
18. I think about what I want to be when I grow up.	1	2	3	4	5	6	7
19. The military is a good place to work.	1	2	3	4	5	6	7
20. I am enjoying coming to a military base.	1	2	3	4	5	6	7
21. Military bases are fun.	1	2	3	4	5	6	7
22. I do not think STARBASE will help me do better in school.	1	2	3	4	5	6	7
23. I like to think of new ways to use things.	1	2	3	4	5	6	7
Post STARBASE							
24. At STARBASE, I learned a lot of things that I can use.	1	2	3	4	5	6	7
25. STARBASE is boring.	1	2	3	4	5	6	7
26. I would tell my friends to come to STARBASE.	1	2	3	4	5	6	7

Thank You!

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

2008 DIRECTOR'S QUESTIONNAIRE

FY 2008 Director's Questionnaire

I. Introduction

It is time to compile the information for the 2008 DoD STARBASE Annual Report to Congress. The data not only documents your Academy's operational activities, but it also identifies key issues, challenges, and concerns that potentially effect future program development. All information requested is for Federal FY08 activities (October 1, 2007- September 30, 2008) unless otherwise indicated. Your cooperation and timely response is essential to the successful completion of this report to Congress by the end of this calendar year. As required by 10 USC 2193b, OASD/RA shall submit an annual report to Congress on the program which shall contain a discussion of the design and conduct of the program and an evaluation of the effectiveness of the program. Paragraph 6.16.1 of DoDI 1025.7 states DoD support for a STARBASE Academy may be terminated because a STARBASE Academy fails to provide data necessary for the compilation of the annual Congressional report. Before returning the questionnaire, review each item for completeness and/or explain the data's unavailability. The due date is on or before August 22, 2008. Email the completed file to dovenden@spectrumgrp.com

Instructions

1. This questionnaire is divided into seven sections, each of which is contained on a separate worksheet.
   I. Introduction
   II. Academy Information
   III. Academy Statistics
   IV. Curriculum
   V. Operations
   VI. Finanical Information
   VII. Supporting Materials and Suggestions

2. Please enter your data in the light blue cells only.
3. Please do not attempt to make changes to the format of the worksheets.
4. Upon completion, submit the entire file with ALL worksheets to: dovenden@spectrumgrp.com.

II. Academy Information

1. Please provide this information as you would like it to appear in the annual report and participant directories.	Name of Academy	
	Academy Director	
	Military Affiliation	
	Military Location	
	Address 1	
	Address 2	
	City	
	State	
	ZIP	
	Telephone Number	
	DSN	
	Fax Number	
	Email Address	
	Website Address	
	Base Commander	
	Name	
	Address 1	
	Address 2	
	City	
	State	
	ZIP	
	Telephone Number	

III. Academy Statistics

	Type of Programs	Number of Schools	Number of Classes	Number of Students
2. FY08 Statistics	5-Day			
	4-Day			
	Other			
	Total 4- and 5-Day Programs	0	0	0

2a. Briefly describe the type of program(s) taught outside the 4- or 5-day program, if applicable.	

Questions 3 through 9 refer only to 4- or 5-day curriculum-based programs

3. FY08 Average class size	

4. FY08 Grade Levels	K	1	2	3	4	5	6	7	8	9	10	11	12
Place an "X" in the appropriate boxes													

5. FY08 Demographics	Females	Males	Total
Total numbers			

6. FY08 Ethnicity *Please place a 0 for ethnic groups with no students*	Black African American	Asian/ Pacific Islander	Caucasian	Hispanic or Latino	Multi-Race	American Indian/ Alaskan Native	Other	TOTAL
Total numbers								0

7. Total Number of Students who are Economically Disadvantaged		

8. Have you correlated your curriculum with your State's standards?	

		Average Number of Answers Correct		Change	
9. FY08 Locally Administered Pre/Post Test Raw Data	Number of Test Questions	Pretest	Post test	Point Gain	% Gain
				0	

IV. Curriculum

	Curriculum Topic	Embedded	Hours Experiential	Hours Lecture
10. Indicate, out of the 20-25 required hours, the estimated hours devoted to each topic.	Sample Topic	0.25	1.25	1.25
	Newtons Law of Motion			
	Four Forces of Flight			
	Bernoulli's Principle			
	Model Rocketry			
	Aircraft Control Surfaces			
	Properties of Air			
	Development, Innovation and Use of Technology			
	Properties and States of Matter			
	Flight Simulation			
	Space Exploration			
	Goal Setting			
	Teamwork			
	Avoiding Substance Abuse			
	Column Totals	0	0	0
	Other (Lunches, Breaks, etc.)			
	Grand Total (Must equal 20 for 4-day academies and 25 for 5-day academies). Does not include embedded hours.		0	

10a. Out of the 20-25 required hours, how many are dedicated to PTC?	

10b. Out of the 20-25 required hours, how many are spent on math? If it embedded, please explain in question 10c.	

10c. If a topic is embedded in other topical areas, please explain.	

10d. If this coverage is different from last year, please identify and explain.	

	Military	Non-Military
11. Out of the 20-25 required hours per class, indicate the number of hours spent at each location.		

12. Do you have a staff training program?	

12a. If yes, please describe.	

13. Do you provide training to local teachers?	

13a. If yes, please estimate the number of hours contributed to each topic.

Topic	Estimated Hours	When Do You Provide This Training?
Sample Topic	0.25	Late Spring
Continuing Education Workshops		
Local, State, National Conference Workshops		
Experiental Training for Student Teachers		
Methods Courses through local Universities		
Other (Please describe below)		

14. Over the past year, how often did you share/obtain materials/lessons-learned with other Academies?	Share
	Obtain

15. Do you provide additional curriculum materials to schools/ teachers?	
15a. If yes, were they used?	
15b. If yes, what materials did you provide?	

16. What are your TOP three primary sources for materials, teaching aids, curriculum, and other program operations procedures?	

V. Operations

17. FY08 Staffing	Position (Funded by DoD)	Number Full-Time	Number Part-Time	Status
	Program Instructor	1	1	State Employee
	Director			
	Deputy Director/Program Instructor			
	Program Instructor			
	Sec./Admin Asst./Office mgr.			
	Other Position (list below)			

17a. If your current staffing does not reflect the DoDI manning model, do you have a waiver?	

18. FY08 Personnel Funded by Non-DoD Sources	Position (funded by DoD)	Total Number

19. Staff Changes From Last Reporting Cycle	Position	Reason for Departure	On approximately what date did they leave?	Has the vacancy been filled?	Approximately how many weeks did it take to fill the vacancy?

20. Volunteer Activity (Please estimate the number of volunteers and volunteer hours commited in FY08)	Volunteer Group	Number of Volunteers	Number of Hours
	Military		
	Teachers		
	Parents		
	Other		

21. Current Program Service Area		
	If other, please explain.	

22. What support services, in whole or in part, did the participating schools provide. (Mark all that apply with an "X")		
	Transportation	
	Duplication/Printing	
	Audiovisual Equipment	
	Teachers as monitors	
	Educational supplies	
	Communications	
	Lunches	
	Graphics	
	Computers	
	Other (Please specify below)	

23. In what year was your last property audit conducted?	
Who was the auditing agent?	

Please submit a copy of the results of your latest audit(s) to The SPECTRUM Group, 11 Canal Center Plaza Suite 103, Alexandria, VA 22314 or email to dovenden@spectrumgrp.com.

24. Do you have a real property listing on file?	
24a. Does it include all non-expendable property or just property at a certain dollar amount?	

25. In what year was your last fiscal audit conducted?	
Who was the auditing agent?	

Please submit a copy of the results of your latest audit(s) to The SPECTRUM Group, 11 Canal Center Plaza Suite 103, Alexandria, VA 22314 or email to dovenden@spectrumgrp.com

26. Do you give STARBASE presentations to community groups?	

26a. Please list what group and how often.	Group	How Often
	Superintendent of Schools	
	Principal	
	Base Commander	
	Community Leaders	
	Other	

27. Do you have a non-profit organization?		X	*Please identify the TOP 3 functions with numbers (1,2 and 3)*

27a. If yes, what is the function of the board of directors? (Mark all that apply with an "X". *Please note that the DoDI,para5.3.6 states that "At no time will such a local non-profit organization assume any fiduciary or legal decision-making responsibility in place of either the DoD Component or the local commander."*			
	Selection of schools		
	Review of potential staff personnel		
	Budget planning and review		
	Review of recommendations of subcontractor relationships.		
	Grant writing/submissions		
	Program planning/annual review		
	Fundraising/marketing program		
	Compliant to DoDI policies and review		
	Other (Please specify below)		

	Document	On File?
28. Please indicate which of these core documents you have on file.	Staff/Student Schedules	
	Curriculum Outline	
	Program Operations Manual	
	Program Director's Guide	
	Local/State Testing Data	
	FY08 Strategic Plan/Program Goals	
	Memorandums of Understanding (MOU)	
	Minutes of Board Meetings	
	Bylaws and Articles of Incorporation	
	Voluntary Participation Form	
	Hold Harmless Agreement	
	Emergency Health Form	
	Public Affairs Release	
	Incident Report Form	
	Parent/Guardian Acknowledgement of Responsibility for Property Damage	
	A written waiver from OASD/RA for academies located at non-military facilities	

29. Over the past program year, have there been any events that have has an effect on your program's operation (e.g. Homeland Security, Iraq Information, staff turnover, weather, etc.)?	
30a. If yes, please briefly explain the event(s) and its effect on the program.	

VI. Financial Information

31. FY08 Academy Income	DoD Icome ($)	Non-DoD Income	Total Income ($)
			$ -

	Catgory of Expenditure	Amount Expended ($)	Percent of Total
32. FY08 DoD Cash Expenditures: (October 1, 2007 - September 30, 2008)	Staff		
	Facilities/Furnishings		
	Transportation/Travel		
	Supplies		
	Equipment		
	Contract Services		
	Communications/Outreach		
	Total:		0%
	Staff Detail: (Include benefits)		
	Program Director		
	Deputy Director/Program Instructor		
	Program Instructor		
	Office Manager		
	Other		
	Total:	$ -	0.0%

	Catgory of Expenditure	Amount Expended ($)	Percent of Total
33. FY08 Non-DoD Cash Expenditures	Staff Salaries		
	Staff Development		
	Facilities/Furnishings		
	Transportation/Travel		
	Supplies		
	Equipment		
	Services		
	Program/Curriculum		
	Communication/Outreach		
	Other		
	Total:		

	Source of Funding	Amount ($)	Percent of Total
34. FY08 Source of Non-DoD Cash Income	Grants		
	Donations		
	Facilities/Furnishings		
	State		
	Other (Please specify below)		
	Total:	$ -	

	Donation	Source of Donation	Estimated Dollar Value
35. FY08 In-Kind Donations (non-cash, gifts, e.g. classroom space, copiers, printing, etc.)	Facilities		
	Furnishings		
	Supplies		
	Transportation/Travel		
	Services		
	Equipment		
	Communications/Outreach		
	Other		
	Total:		

	Source of Funding	Amount ($)	Percentage of Total
36. FY09 Projected Other Income (non-DoD funds) Provide best estimate.	Grants		
	Donations		
	State		
	Other (Please Specify Below)		
	Total:	$ -	

VII. Supporting Materials and Suggestions

37. Please provide a complete list of the school districts that you site serves. *NOTE: Please enter the full district name. For example, enter "North South Central Public Schools" rather than just "North South Central."*	
School Districts	

37a. Please provide a complete list of the schools that your site serves.

For each school select the district and school type from the drop-down menu and provide the mailing address, phone number and principal's name.
Note: When opening a district drop-down menu, it may be necessary to scroll up within the menu in order to view the district list
NOTE: Please enter the full school name. For example, enter "Horace Mann Elementary School" rather than just "Horace Mann."

	School	District (Select from menu)	Type of School (Select from menu)	Principal Name	Address	City	State	ZIP	Phone
School									

39. Please provide any suggestions regarding curriculum, operational concerns, or program imperatives.	

Before returning this questionnaire, review each item for completeness and/or explain the data's unavailability.

The due date in on or before August 22, 2008.

Email the completed file to dovenden@spectrumgrp.com.

Thank You!

GLOSSARY

ACC: Academic Competitiveness Council.

Academy: See DoD STARBASE academy.

Adjusted data: Data derived from the same academies that were operating last year so that comparisons can be made on the internal growth of the program.

After school programs: Center- or school-based programs regularly scheduled at least once each moth during after school hours.

Alternative education provider: A public or private school designed for children who do not function well in the traditional school setting. This may include continuation high schools or schools that fall outside the categories of regular, special education or vocational education.

Appropriations: Budget authority provided through the Congressional appropriation process that permits federal agencies to incur obligations and to make payments.

At-risk: Being "at-risk" means having one or more family background factors that have been found to predict a high rate of school failure at some time in the future. This "failure" generally refers to dropping out of high school before graduation, but also can mean being retained within a grade from one year to the next. The risk factors include having a mother whose education is less than high school, living in a single-parent family, receiving welfare assistance, and living in a household where the primary language spoken is other than English.

At-risk youth: Students at risk are those who have characteristics that increase their chances of dropping out or falling behind in school. These characteristics may include being from a single-parent household, having an older sibling who dropped out of high school, changing schools two or more times other than the normal progression (e.g., from elementary to middle school), having C's or lower grades, being from a low socio-economic status family, or repeating an earlier grade.

Computer-aided design (CAD): The use of computer technology to aid in the design and especially the drawing of a part or product. It is both a visual and symbol-based method of communication whose conventions are particular to a specific technical field.

Class: Within the context of a DoD STARBASE Academy, a class is a grouping of students. This group may not necessarily have been a homogenous entity prior to DoD STARBASE instruction; it may be a temporary grouping only for the purposes of assembling for the 20-hour minimum period of DoD STARBASE instruction.

Classroom contact hour: A period of 60 minutes, plus or minus 5 minutes, in which a DoD STARBASE Academy instructor is actively involved with students or in which a military member is demonstrating, displaying, or teaching an application of math, science, or technology to the students.

Core curriculum: DoD STARBASE core curriculum is comprised of the 13 following areas:

1) Teamwork;
2) Properties and States of Matter;
3) Properties of Air;
4) Bernoulli's Principle;
5) Aircraft Control Surfaces and Components;
6) Four Forces of Flight;
7) Newton's Laws of Motion;
8) Space Exploration;
9) Development, Innovation, and Uses of Technology;

10) Avoiding Substance Abuse;
11) Goal setting;
12) Model Rocketry; and
13) Flight Simulation.

Current expenditures: Expenditures for operating DoD STARBASE Academies, excluding capital outlay. These expenditures include such items as salaries for school personnel, fixed charges, student transportation, books and materials, and energy costs.

Current Expenditures per pupil: Current expenditures for the DoD STARBASE academies divided by the total number of participating students.

Disability: Physical, mental, or sensory impairments that render major life activities more difficult.

DoD: Department of Defense.

DoD components: Those Department of Defense entities that have established or are in pursuit of establishing a DoD STARBASE academy, including the military departments, defense agencies, and defense field activities.

DoD Instruction (DoDI): Document that implements policies, responsibilities, and procedures for executing the DoD STARBASE program.

DoD STARBASE Academy: A DoD educational program designed to improve the knowledge and skills of students in kindergarten through twelfth grade in mathematics, science, and technology. It follows the academy model description in DoDI 1025.7.

DoD STARBASE core curriculum: The fixed course of study referenced in the DoDI taught by all DoD STARBASE academies. (See also core curriculum.)

DoD STARBASE program: The DoD STARBASE program is authorized by Title 10 United State Code Section 2193b as a DoD science, math, and technology education improvement program. The Office of the Assistant Secretary of Defense for Reserve Affairs administers policy and oversight; the DoD components execute the program at DoD STARBASE academies. DoD STARBASE is funded by Congress as a Civil Military Program.

DoD STARBASE site: The location of a DoD STARBASE Academy where the program is taught.

DoE: Department of Education.

Driver: Drivers identify a set of related attitudinal clusters for the student population (i.e. when the driver is present, the set of attitudes will most likely be present, or in reverse, when the condition in the list of attitudes are present the target "driver" attitude will also be present).

Elementary school: An elementary/secondary school with one or more grades of K-8 that does not have any grade higher than grade 8.

Elementary/secondary school: Elementary/secondary schools include regular schools (i.e., schools that are part of state and local school systems and private elementary/secondary schools, both religiously affiliated and nonsectarian); alternative schools; vocational education schools; and special education schools. Subcollegiate departments of postsecondary institutions, residential schools for exceptional children, federal schools for American Indians or Alaska Natives and federal schools on military posts and other federal installations are not included in the definition of elementary/secondary school.

Enrollment: The total number of students registered at a DoD STARBASE Academy at a given time, generally in the fall of the year.

Expenditures: Charges incurred, whether paid or unpaid, that are presumed to benefit the current fiscal year.

Expenditures per pupil: Charges incurred for a particular period of time divided by a student unit of measure, such as enrollment, average daily attendance, or average daily membership.

Fiscal year: The yearly accounting period for the federal government, which begins on October 1 and ends on the following September 30. The fiscal year is designated by the calendar year in which it ends; for example, fiscal year 2008 begins on October 1, 2007 and ends on September 30, 2008.

Gap score: Difference between pre- and post-scores.

Graduate: An individual who has received formal recognition for the successful completion of a prescribed program of studies.

High school: A secondary school offering the final years of high school work necessary for graduation, usually including grades 10, 11 and 12 (in a 6-3-3 plan) or grades 9, 10, 11, and 2 (in a 6-2-4 plan).

Inner city location: Central section of a city, which is usually older and more densely populated.

Kindergarten: Includes transitional kindergarten, kindergarten, and pre-1st grade students.

Mathematics: A body of related courses concerned with knowledge of measurement, properties, and relations quantities, which can include theoretical or applied studies of arithmetic, algebra, geometry, trigonometry, statistics, and calculus.

MSI: Mathematics and Science Initiative

Median: A number of which half of the data is larger and the other half smaller. If the itemized data are listed in order of size, the median is the middle number in the list.

Middle school: A separately organized and administered school between the elementary and senior high schools. When called a "junior high school," a middle school usually includes grades 7, 8, and 9 (in a 6-3-3 plan) or grades 7 and 8 (in a 6-2-4 plan.) In some districts, however, a middle school spans grades 5 to 8 or grades 6 to 8.

Minority: Any individual or racial/ethnic group that is not categorized as White, Hispanic or Latino.

National school lunch program: Established by President Truman in 1946, the program is a federally assisted meal program operated in public and private nonprofit schools and residential child care centers. To be eligible, a student must be from a household with an income at 185 percent of the poverty level for reduced-price lunch or 130 percent of the poverty level for free lunch.

Not-for-profit organization: A legal entity recognized or chartered by competent state authority and to which the Internal Revenue Service has given status as a 501(c)3 tax-exempt educational organization.

OASD/RA: Office of the Secretary of Defense/Reserve Affairs

Operational academies: An academy that is processing students.

Participant: A DoD STARBASE student. Participant also refers to military command support units, the local sponsoring base command, community leaders, local community sponsoring committees, school systems, schools, teachers, military service volunteers, DoD STARBASE Board members, staff, and parents.

Percentile (score): A value on a scale of zero to 100 that indicates the percent of a distribution that is equal to or below it.

Pre/Post application: Prior to the start of the program and at the completion of the program.

Program year: The DoD STARBASE program year is the same as the government fiscal year, October 1 – September 30.

Public school: An institution that provides educational services for at least one of grades 1-12 (or comparable upgraded levels), has one or more teachers to give instruction, is located in one or more buildings, receives public funds as primary support, and is operated by an education or chartering agency. Public schools include regular, special education, vocational/technical, alternative, and public charter schools. They also include schools in juvenile detention centers, schools located on military bases and operated by the Department of Defense, and Bureau of Indian Affairs-funded schools operated by local public school districts.

Rural location: The population and territory outside any urbanized area and the urban part of any place with a decennial census population of 2,500 or less.

Salary: The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

Sample population: A statistically significant representation of the total number of students tested each year.

School district: An education agency at the local level that exists primarily to operate public schools or to contract for public school services.

School year: The 12-month period of time denoting the beginning and ending dates for school accounting purposes, usually from July 1 through June 30.

Science: The body of related course concerned with knowledge of the physical and biological world and with the processes of discovering and validating this knowledge.

Secondary school: An elementary/secondary school with one or more of grades 7-12 that does not have any grade lower than grade 7.

Site: See DoD STARBASE site.

Socio-economic disadvantage: A term used to describe economically deprived, poor, poverty stricken, or disadvantaged individuals or groups. (See also Socio-economic status.)

Socio-economic status: A measure of an individual or family's relative economic and social ranking based on such factors as father's education level, mother's education level, father's occupation, mother's occupation and family income.

STEM: Science, Technology, Engineering, and Math

Supplemental programs: These are programs that for one reason or another (e.g. below minimum hours, do not cover the 13 core curriculum areas, etc.) do not meet DoDI standards. They are more diverse than traditional DoD STARBASE programs, are often conducted during the summer months and are specially designed to reach students that do not fall under the targeted "participant" schools or are in response to requests by members of the community to serve "hard-to-reach" children. Supplemental programs are initiatives that go beyond the normal operation and obligations of the academy. In many cases, supplemental programs are established in response to the demand created by the popularity and success of the DoD STARBASE program within the community.

Teacher certification: License granted by states for teachers to teach a given subject. In 2002, all states required a bachelor's degree that included subject matter as well as pedagogical studies; all but 10 states required basic skills tests in reading, mathematics, or general knowledge; and 31 states required subject-matter examinations.

Tuition and fees: A payment or charge for instruction or compensation for services, privileges, or the use of equipment, books, or other goods.

STATISTICAL FORMULAS

The following section provides a list of the statistical formulas that were used to calculate the data presented in this report.

1. Mean – average value of a variable

$Xbar = \sum X/N$
$\sum X$ = the sum of all values of X
N = the sample size

2. **Standard deviation – measure of the average deviation of each score from the mean**

$s = [\ x_i\text{-}xbar^2/n\text{-}1]^{1/2}$

xbar = the sample mean xbar is generally represented by an x with a bar or line over the top
n = the sample size.

3. **t-test – tests the difference between two means**

$t = Xbar_1 - Xbar_2/s_{x1bar\text{-}x2bar}$

$s_{x1bar\text{-}x2bar}$ = the standard deviation of the difference between the two variables

4. **Pearson's Correlation – determines the relationship between two variables**

$r_{12} = [[\sum Y_1{*}Y_2 - \sum Y_1{*}\sum Y_2/N\,]/N\text{-}1]/s_{y1}s_{y2}$
Y = the values of the variables
s = the standard deviation of the variables

5. **Regression Equation – determines what combination of variables can best predict the outcome for the dependent variable**

$Y = a + b_1{*}X_1 + b_2{*}X_2 + \ldots + b_p{*}X_p$

Y= the predicted value of the dependent variable.
a = the intercept value of Y when X=0.
b = the regression coefficients for the predictors.
X = the value of the predictor variable

DIRECTORY OF DoD STARBASE ACADEMIES

ALABAMA

Montgomery

STARBASE Maxwell
Start Date: 2004
Service Component: Air Force
Miltary Location: Maxwell Air Force Base
Address:
60 West Maxwell Boulevard
Building 835/ Basement
Montgomery, AL 36112
Tel: 334. 953.4821
Fax: 334.953.4626
Director: Marvin (Chip) Haughton, Jr.
Email: Marvin.Haughton-02@maxwell.af.mil

School Districts & Schools
District: Autauga County Public School District
Autaugaville School
Billingsley School
Daniel Pratt Elementary School
Pine Level Elementary School
Prattville Intermediate School

District: Elmore County Public School District
Eclectic Middle School
Holtville Middle School
Millbrook Junior High School
Wetumpka Intermediate School

District: Montgomery County Public School District
Blount Elementary School
Carver Elementary School
Catoma Elementary School
Dalraida Elementary School
Dannelly Elementary School
E.D. Nixon Elementary School
Floyd Elementary School
Forrest Avenue Elementary School
Garrett Elementary School
Harrison Elementary School
Head Elementary School
Highland Avenue Elementary School
MacMillan International Academy
McKee Elementary School
Morningview Elementary School
Paterson Elementary School
Pintlala Elementary School
T.S. Morris Elementary School

District: Department of Defense Elementary School System (DODESS)
Maxwell AFB Elementary School

ALASKA

Anchorage

STARBASE Alaska
Start Date: 2002
Service Component: Air National Guard
Military Location: Alaska National Guard, Fort Richardson
Address:
P.O. Box 5185
Building 60728/60730
Fort Richardson, AK 99505
Tel: 907.384.6351
Fax: 907.384.6350
Director: Shanna McPheters
Email: shanna.mcpheters@alaska.gov
Website: starbasealaska.org

School Districts & Schools
District: Anchorage School District
Airport Heights Elementary School
Aquarian Charter Elementary School
Baxter Elementary School
Denali Elementary School
Fairview Elementary School
Gateway Elementary School
Gladys Wood Elementary School
Lake Otis Elementary School
Ptarmigan Elementary School
Rabbitt Creek Elementary School
Rogers Park Elementary School
Russian Jack Elementary School
Sand Lake Elementary School
Taku Elementary School
Ursa Minor Elementary School
William Tyson Elementary School
Williwaw Elementary School
Willowcrest Elementary School

District: Matanuska School District
Houston Middle School
Wasilla Middle School

ARIZONA

Tucson

STARBASE Arizona
Start Date: 2005
Service Component: Air Force
Military Location: Davis-Monthan AFB
Address:
5260 E. Granite St. Rm. 240
Tucson, AZ 85707
Tel: 520.228.7827
Fax: 520.228.0491
Director: Margaret Cole
Email: margaret.cole@starbaseaz.com

School Districts & Schools
District: Amphitheater Public School District
Copper Creek Elementary School
Donaldson Elementary School
Lulu Walker Elementary School
Mesa Verde Elementary School
Nash Elementary School
Painted Sky Elementary School
Wilson K-8 School

District: Sunnyside Unified School District
Liberty Elementary School
Los Ranchitos Elementary School
Rosemarie Rivera Elementary School

District: Tucson Unified School District
Lawrence Elementary School

District: Vail School District
Ocotillo Ridge Elementary School

District: Other
Cornerstone Christian Academy
Tucson Country Day School

CALIFORNIA

Sacramento

California STARBASE
Start Date: 1993
Service Component: Air National Guard
Military Location: California National Guard, Sacramento Armory
Address:
8400 Okinawa Street, Suite 1
Sacramento, CA 95828
Tel: 916.387.7405
Fax: 916.387.8309
Director: John Lamb
Email: castarbase@sbcglobal.net
Website: www.starbaseca.org

School Districts & Schools
District: Elk Grove Unified School District
Anna Kirchgator Elementary School
Arthur C. Butler Elementary School
Carroll Elementary School
Charles E. Mack Elementary School
Elk Grove Elementary School
Florence Markofer Elementary School
Helen Carr Castello Elementary School
Isabelle Jackson Elementary School
John Reith Elementary School
Maelo R. Beitzel Elementary School
Mary Tsukamoto Elementary School
Pleasant Grove Elementary School
Prairie Elementary School
Raymond Case Elementary School
Roy Herburger Elementary School
Stone Lake Elementary School
Union House Elementary School

District: Elverta Joint School District
Elverta Elementary School

District: Folsom Cordova Unified School District
Blanche Sprentz Elementary School
Carl H. Sundahl Elementary School
Cordova Gardens Elementary School
Cordova Lane Elementary School
Cordova Villa Elementary School
Folsom Hills Elementary School
Goldridge Elementary School
Mather Heights Elementary School

Continued on following page

Natoma Station Elementary School
Navigator Elementary School
Oak Chan Elementary School
Peter J. Shields Elementary School
Rancho Cordova Elementary School
Riverview Elementary School
Russell Ranch Elementary School
Sandra J. Gallardo Elementary School
Theodore Judah Elementary School
White Rock Elementary School
Williamson Elementary School

District: Loomis Union School District
Franklin Elementary School
H. Clark Powers Elementary School
Loomis Elementary School
Penryn Elementary School
Placer Elementary School

District: Ophir Elementary School District
Ophir Elementary School

District: Rio Linda Union School District
Aero Have Elementary School
Dry Creek Elementary School
F.C. Joyce Elementary School
Foothills Oaks Elementary School
Frontier Elementary School
Hillsdale Elementary School
Holmes AKA Creative Connections Academy
Kohler Elementary School
Regency Elementary School
Sierra View Elementary School
Village Elementary School
Westside Elementary School
Woodridge Elementary School

District: Robla Union School District
Bell Avenue Elementary School
Glenwood Elementary School
Main Avenue Elementary School
Taylor Street Elementary School

District: Sacramento City Unified School District
Cesar Chavez K-8 School
Martin Luther King, Jr. Elementary School
Phoebe Hearst Elementary School

District: Other
St. John Vianney Elementary School
Gloria Dei Lutheran Elementary School

San Diego

STARBASE Atlantis-San Diego
Start Date: 1998
Service Component: Navy
Military Location: Naval Base San Diego
Address:
3975 Norman Scott Road
San Diego, CA 92136
Tel: 619.556.7589
Fax: 619.556.9310
Director: Nicholas Jordan
Email: nicholas.jordan@navy.mil

School Districts & Schools
District: Chula Vista Elementary School District
Harborside Elementary School
Montgomery Elementary School
Palomar Elementary School
Otay Elementary School
Rice Elementary School
Silver Wing Elementary School
Vista Square Elementary School

District: National City School District
El Toyon Elementary School
Ira Harbison Elementary School
John A. Otis Elementary School
Las Palmas Elementary School
Kimball Elementary School
Palmer Way Elementary School

District: San Diego City Schools School District
Jefferson Elementary School
Porter Elementary School

CONNECTICUT

Hartford

STARBASE Hartford
Start Date: 2001
Service Component: Air National Guard
Military Location: Bradley Air National Guard Base, Brainard Airport
Address:
251 Maxim Road
Hartford, CT 06114
Tel: 860.728.0090
Fax: 860.728.3293
Director: Melissa Vanek
Email: melissa.vanek@yahoo.com
Website: http://www.starbase-ct.com

School Districts & Schools
District: East Hartford Public School District
Anna E. Norris Elementary School
Franklin H. Mayberry Elementary School
Governor William Pitkin Elementary School
Hockanum Elementary School
John A. Langford Elementary School
Joseph O. Goodwin Elementary School
Robert J. O'Brien Elementary School
Silver Lane Elementary School
Thomas S. O'Connell Elementary School

District: Hartford Public School District
Capital Preparatory Magnet School
Naylor Elementary School

District: New Britain Public School District
Holmes Elementary School

Waterbury

STARBASE Waterbury
Start Date: 2003
Service Component: Air National Guard
Military Location: Naugatuck Community College
Address:
750 Chase Parkway
Waterbury, CT 06708
Tel: 203.575.8271
Fax: 203.575.8018
Director: Melissa Vanek
Email: melissa.vanek@yahoo.com
Website: http://www.starbase-ct.com

School Districts & Schools
District: Waterbury Public School District
B.W. Tinker Elementary School
Barnard Elementary School
Brooklyn Elementary School
Bucks Hill Elementary School
Bunker Hill Elementary School
Carrington Elementary School
Chase Elementary School
Driggs Elementary School
F.J. Kingsbury Elementary School
Generali Elementary School
Hopeville Elementary School
John G. Gilmartin Elementary School
Maloney Magnet Elementary School
Regan Elementary School
Rotella Interdistrict School
Sprague Elementary School
Walsh Elementary School
Washington Elementary School
Wendell Cross Elementary School
Woodrow Wilson Elementary School

District: Other
Children's Community Elementary School
Our Lady of Mount Caramel Elementary School

DISTRICT OF COLUMBIA

Washington

STARBASE Atlantis – Washington Navy Yard
Start Date: 2001
Service Component: Navy
Military Location: Washington Navy Yard
Address:
645 Rickover St. S.E.
Building 21, Suite 102
Washington, DC 20374
Tel: 202.433.0531
Fax: 202.433.0534
Director: Nalo Washington
Email: nalo.washington@navy.mil

School Districts & Schools
District: District of Columbia Public School Systems
Benning Elementary School
Brent Elementary School
Bunker Hill Elementary School
Emery Elementary School
Garfield Elementary School

Continued on following page

Hendley Elementary School
Leckie Elementary School
Ludlow-Taylor Elementary School
Payne Elementary School
Sheperd Elementary School
Simon Elementary School
Thurgood Marshall Educational Center

District: Other
Saint Peter's Interparish Elementary School

FLORIDA

Jacksonville

STARBASE Florida Inc
Start Date: 1994
Service Component: Air National Guard
Military Location: 125th Fighter Wing, Florida Air National Guard, Jacksonville International Airport
Address:
14300 Fang Drive
Jacksonville, FL 32218
Tel: 904.741.7320
Fax: 904.741.7324
Director: Greg Stritch
Email: gregory.stritch@fljack.ang.af.mil

School Districts & Schools
District: Duval County Public School District
Arlington Heights Elementary School
Cedar Hills Elementary School
Holiday Hills Elementary School
Lake Forrest Elementary School
Matthew Gilbert Middle School
Reynolds Lane Elementary School
Rufus Payne Elementary School
Rutledge Pearson Elementary School
S.A. Hull Elementary School
S.P. Livingston Elementary School

Pensacola

STARBASE Atlantis-NAS Pensacola/Whiting Field
Start Date: 1994
Service Component: Navy
Military Location: Naval Air Station Pensacola & Naval Air Station Whiting Field
Address:
6490 Saufley Field Road
Pensacola, FL 32509
Tel: 850.452.8287
Fax: 850.452.8288
Director: Donna Eichling
Email: deichling@aol.com
Website:
http://www.netc.navy.mil/community/starbase/sa.html

School Districts & Schools
District: Escambia County Public School District
Bellview Elementary School
Ensley Elementary School
Escambia Westgate Academy
Holm Elementary School
Jim Allen Elementary School
Navy Point Elementary School
Spencer Bibbs Elementary School
West Pensacola Elementary School

District: Santa Rosa County Public School District
Bagdad Elementary School
Bennett Russell Elementary School
Berryhill Elementary School
Chumuckla Elementary School
East Milton Elementary School
Holley Navarre Intermediate School
Jay Elementary School
Munson Elementary School
Oriole Beach Elementary School
S.S. Dixon Intermediate Elementary School
W.H. Rhodes Elementary School

District: Other
East Hill Christian Elementary School
St. Paul Catholic Elementary School

GEORGIA

Marietta

Peach State STARBASE
Start Date: 2001
Service Component: Air National Guard
Military Location: Georgia National Guard, Dobbins Air Reserve Base
Address:
1484 Patrol Road
Dobbins ARB, GA 30096
Tel: 678.655.4667
Fax: 678.655.4667
Director: Bill Wells
Email: bill.wells2@ga.ngb.army.mil

School Districts & Schools
District: Cobb County School District
Birney Elementary School
Brown Elementary School
Green Acres Elementary School
Harmony Leland Elementary School
Hollydale Elementary School
Mableton Elementary School
Milford Elementary School
Russell Elementary School
Sanders Elementary School

District: Marietta City School District
Hickory Hills Elementary School
Lockheed Elementary School

Warner Robins

STARBASE Robins
Start Date: 1996
Service Component: Air Force Reserve
Military Location: Robins Air Force Base
Address:
P.O. Box 2469
Warner Robins, GA 31099
Tel: 478.926.1769
Fax: 478.926.1770
Director: Wesley Fondal
Email: wesley@starbaserobins.org
Website: www.starbaserobins.org

School Districts & Schools
District: Bibb County School District
Alexander II Magnet School
Bruce Elementary School
Matilda Hartley Elementary School
McKibben Lane Elementary School
Morgan Elementary School
Sonny Carter Elementary School
Williams Elementary School

District: Houston County School District
Lindsey Elementary School
Linwood Elementary School
Miller Elementary School
Morningside Elementary School
Parkwood Elementary School
Pearl Stephens Elementary School
Tucker Elementary School
Union Elementary School
Westside Elementary School

District: Twiggs County School District
Twiggs County Middle School

District: Other
Gilead Christian Academy
Saint Joseph Elementary School
Saint Peter Claver Catholic School

HAWAII

Keaau

STARBASE Hawaii – Keaau
Start Date: 2008
Service Component: Air National Guard
Military Location: National Guard Armory, Keaau
Address:
16-512 Volcano Highway
P.O. Box 256
Keaau, HI 96749
Tel: N/A
Fax: N/A
Director: Robert J. Roman
Email: starbasebigisland@yahoo.com

Schools & School Districts
District: Hilo-Laupahoehoe Complex
Waiakea Elementary School

District: Southern School District (Kea'au - Ka'u – Pahoa)
Kea'au Elementary School
Keonepoko Elementary School
Mt. View Elementary School
Nawahi O Kalani Opuu Elementary School
Naalehu Elementary School
Pahala (Kau) Elementary School
Pahoa Elementary School

Continued on following page

Pearl Harbor

STARBASE Atlantis – Hawaii
Start Date: 2001
Service Component: Navy
Military Location: Navy Submarine Training Center Pacific
Address:
1130 Bole Loop
Ford Island, Bldg 39, Room 234
Pearl Harbor, HI 96860
Tel: 808.472.7389
Fax: 808.472.9923
Director: Joseph P. Barrett
Email: joseph.p.barrett@navy.mil

School Districts & Schools
District: Oahu Central School District, Aiea- Moanalua-Radford Complex Area
Admiral Chester W. Nimitz Elementary School
Aliamanu Elementary School
Lt. Col. Horrace Meek Hickam Elementary School
Major General William R. Shafter Elementary School
Makalapa Elementary School
Mokulele Elementary School
Pearl Harbor Elementary School
Pearl Harbor Kai Elementary School

District: Oahu Leeward School District, Campbell- Kapolei-Waianae Complex Area
Ewa Elementary School
Iroquois Point Elementary School

District: Oahu Leeward School District, Nanakulii-Pearl City-Waipahu Complex Area
Lehua Elementary School

District: Other
Christian Academy
Holy Family Catholic Academy
Our Savior Lutheran School
Pearl Harbor Christian Academy
St. Anthony Catholic School
St. Elizabeth Catholic School
St. Mark Lutheran School

ILLINOIS

Great Lakes

STARBASE Atlantis-Great Lakes
Start Date: 2001
Service Component: Navy
Military Location: Naval Station Great Lakes
Address:
2221 Mac Donough Drive
Bldg. 617, Room 122
Great Lakes, IL 60088
Tel: 847.688.2509
Fax: 847.688.3136
Director: Steven P. Surbrook
Email: steven.surbrook@navy.mil

School Districts & Schools
District: North Chicago School District #187
A.J. Katzenmaier Elementary School
Forrestal Elementary School
Greenbay Elementary School
Hart Elementary School
North Elementary School
South Elementary School

District: Zion Elementary School District #6
Beulah Park Elementary School
East Elementary School
Elmwood Elementary School
Shiloh Park Elementary School
West Elementary School

KANSAS

Kansas City

STARBASE Kansas City
Start Date: 2008
Service Component: Air National Guard
Military Location: HQ HHS
Address:
100 S. 20th Street
Kansas City, KS 66102
Tel: 913.279.7858
Fax: 913.279.7859
Director: Jeff Gabriel
Email: jeff.gabriel@kstope.ang.af.mil
Website: www.kansasstarbase.org

School Districts & Schools
District: Baldwin City Unified School District 348
Marion Springs Elementary School

District: Basehor-Linwood Unified School District 458

Glenwood Ridge Elementary School

District: Bonnor Springs Unified School District 204
Delaware Ridge Elementary School

District: Kansas City KS Unified School District 500
Emerson Elementary School
Eugene Ware Elementary School
Lindbergh Elementary School
Stony Point South Elementary School
Thomas A. Edison Elementary School
White Church Elementary School

District: Lawrence Unified School District 497
Kennedy Elementary School
Pickney Elementary School

District: Leavenworth Unified School District 453
Anthony Elementary School
David Brewer Elementary School
Earl M. Lawson Elementary School

District: Olathe Unified School District 233
Ravenwood Elementary School

District: Shawnee Mission Unified School District 512
Nieman Elementary School

District: Other
K.C. Christian School
Resurrection Catholic School
St. Agnes Catholic School
St. Patrick's Catholic School
Westminster Christian Academy
Xavier Catholic School

Salina

STARBASE Salina
Start Date: 2008
Service Component: Air National Guard
Military Location: National Guard Armory
Address:
2929 Scanlan Ave.
Salina, KS 67401
Tel: 785.822.6602
Fax: 785.822.6600
Director: Jeff Gabriel
Email: jeff.gabriel@kstope.ang.af.mil
Website: www.kansasstarbase.org

School Districts & Schools
District: Chapman Unified School District 473
Blue Ridge Elementary School

District: Concordia Unified School District 333
Concordia Elementary School

District: Ell-Saline Unified School District 307
Ell-Saline Elementary School

District: Lincoln Unified School District 298
Lincoln Elementary School

District: North Ottawa County Unified School District 239
Minneapolis Elementary School

District: Rural Vista Unified School District 481
Hope Elementary School
White City Elementary School

District: Salina Unified School District 305
Coronado Elementary School
Stewart Elementary School
Sunset Elementary School

District: Solomon Unified School District 393
Solomon Elementary School

District: Sylvan Grove Unified School District 299
Sylvan Unified Elementary School

District: Twin Valley Unified School District 240
Tescott Elementary School

District: Other
Holy Family Catholic School
Salina Christian Academy

Continued on following page

Topeka

STARBASE Topeka
Start Date: 1994
Service Component: Air National Guard
Military Location: Forbes Field, 190th Air Refueling Wing
Address:
5920 SE Coyote Dr.
Topeka, KS 66619
Tel: 785.861.4709
Fax: 785.861.4127
Director: Jeff Gabriel
Email: jeff.gabriel@kstope.ang.af.mil
Website: www.kansasstarbase.org

School Districts & Schools
District: Auburn Washburn Unified School District 437
Indian Hills Elementary School
Pauline South Intermediate School

District: Jefferson County North Unified School District 339
Jefferson North Elementary School

District: Kaw Valley Unified School District 321
Delia Charter School
Rossville Elementary School

District: Mill Creek Valley Unified School District 329
Alma Grade School

District: Mission Valley Unified School District 330
Mission Valley Elementary School

District: North Jackson Unified School District 335
Jackson Heights Elementary School

District: Royal Valley Unified School District 337
Royal Valley Elementary School

District: Seaman Unified School District 345
Lyman Elementary School
Rochester Elementary School
West Indianola Elementary School

District: Topeka Unified School District 501
Linn Elementary School
McEachron Elementary School
Whitson Elementary School
Willliams Science and Fine Arts School

District: Other
Cair Paravel Latin School
Christ the King Catholic School
Topeka Lutheran School

Wichita

STARBASE Wichita
Start Date: 1993
Service Component: Air National Guard
Military Location: McConnell Air Force Base
Address:
52870 Jayhawk Drive
Topeka, KS 67221
Tel: 316.759.7096
Fax: 316.759.7094
Email: jeff.gabriel@kstope.ang.af.mil
Website: www.kansasstarbase.org

School Districts & Schools
District: El Dorado Unified Public School District 490
Lincoln Elementary School

District: Hutchinson Public Unified School District 308
Wiley Elementary School

District: Newton Unified School District 373
South Breeze Elementary School

District: Sterling Unified School District 376
Sterling Grade School

District: Valley Center Public Unified School District 262
Wheatland Elementary School

District: Wichita Public Unified School District 259
Allen Elementary School
Anderson Elementary School
Bostic Traditional Magnet School
Gardiner Elementary School
Peterson Elementary School

District: Other
All Saints Catholic School
Holy Cross Catholic School

LOUISIANA

Barksdale

STARBASE Louisiana
Start Date: 1999
Service Component: Air Force Reserve
Military Location: 917th Wing, Barksdale Air Force Base
Address:
1000 Davis Ave East
Barksdale AFB, LA 71110
Tel: 318.456.1300
Fax: 318.456.1151
Director: Kathy Brandon
Email: kathy.brandon@barksdale.af.mil
Website:
http://www.917wg.afrc.af.mil/units/starbaselouisiana/

School Districts & Schools
District: Bossier Parish School District
Apollo Elementary School
Bossier Elementary School
Central Park Elementary School
Kerr Elementary School
Meadowview Elementary School
Plantation Park Elementary School
Princeton Elementary School

District: Caddo Parish School District
Caddo Heights Elementary School
Mooringsport Elementary School
Oil City Elementary School
Shreve Island Elementary School
Werner Park Elementary School
West Shreveport Elementary School

Pineville (formerly New Orleans)

Pelican State STARBASE
Start Date: 1999
Service Component: Air National Guard
Military Location: Louisiana National Guard, Camp Beauregard
Address:
609 F Street
Pineville, LA 71360
Tel: 318.290.5252
Fax: 318.290.5937
Director: Cheryl L. Arbour
Email: cheryl.arbour1@us.army.mil

School Districts & Schools
District: Rapides Parish Public Schools
Alma Redwine Elementary School
Ball Elementary School
Cherokee Elementary School
J.B. Nachmann Elementary School
L.S. Rugg Elementary School
Julius Patrick Elementary School
Martin Park Elementary School
Paradise Elementary School
Peabody Montessori Elementary School
Pineville Elementary School
Poland Junior High School
Tioga Elementary School
W.O. Hall Math and Science Magnet School

District: Other
Alpine Christian School
Cenla Christian Academy
Christian Home Educators Fellowship
Our Lady of Prompt Succor School
St. Francis Cabrini School

MAINE

Bangor

STARBASE Maine
Start Date: 2001
Service Component: Air National Guard
Military Location: Air National Guard Base Bangor
Address:
105 Maineiac Ave.
Building 510
Bangor, ME 04401
Tel: 207.990.7505
Fax: 207.990.7150
Director: Michele Barnes
Email: michele.barnes@mebngr.ang.af.mil

School Districts & Schools
District: Brewer School Department
State Street Elementary School

District: Bucksport School Department
Bucksport Middle School

District: Dedham School Department
Dedham Elementary School

Continued on following page

District: Glenburn School Department
Glenburn Elementary School

District: Greenville School Department
Greenville Middle/High School
Nickerson Elementary School

District: Hermon School Department
Hermon Middle School

District: Maine School Administrative District 22
George B. Weatherbee School
Leroy H. Smith School

District: Maine School Administrative District 23
Carmel Elementary School

District: Maine School Administrative District 63
Holbrook Elementary School

District: Orland School Department
Orland Consolidated School

District: Orono School Department
Asa C. Adams School

District: Orrington School Department
Center Drive Elementary School

District: Otis School Department
Beech Hill Elementary School

District: Surry School Department
Surry Elementary School

District: Trenton School Department
Trenton Elementary School

District: Other
All Saint Catholic School

MARYLAND

Patuxent River

STARBASE Atlantis- Pax River
Start Date: 2006
Service Component: Navy
Military Location: Naval Air Station Patuxent River
Address:
47253 Whalen Road
Building 588, Room 102
Patuxent River, MD 20670
Tel: 301.342.2789
Fax: 301.342.5457
Director: Laura A. Bennett
Email: laura.bennett@navy.mil

School Districts & Schools
District: Calvert County Public School District
Dowell Elementary School
Huntingtown Elementary School

District: St. Mary's County Public School District
Lettie Marshall Dent Elementary School
Mechanicsville Elementary School
Oakville Elementary School
Piney Point Elementary School
White Marsh Elementary School

MICHIGAN

Battle Creek

STARBASE Battle Creek
Start Date: 2006
Service Component: Air National Guard
Military Location: Battle Creek Air National Guard Base
Address:
3595 Mustang Ave.
Building 6909
Battle Creek, MI 49037
Tel: 269.969.3219
Fax: 269.969.3251
Director: Barbara Koscak
Email: STARBASEBattleCreek@hotmail.com
Website: www.STARBASEOne.org

School Districts & Schools
District: Albion Public School District
Washington Gardner Elementary School

District: Battle Creek Public School District
Coburn Elementary School
Dudley Elementary School
Fremont Elementary School
Franklin Elementary School
21st Century Community Learning Center

Urbandale Elementary School
Springfield Middle School
Valley View Elementary School

District: Bellevue Community School District
Bellevue Elementary School

District: Delton Kellogg Public School District
Delton Kellogg Middle School

District: Kalamazoo Public School District
Milwood Magnet Middle School

District: Lakewood Public School District
Sunfield Elementary School
Woodland Elementary School

District: Parchment Public School District
North Elementary School

District: Thornapple Kellogg School District
Page Elementary School

District: Three Rivers Community School District
Andrews Elementary School
Park Elementary School
Ruth Hoppin Elementary School

Selfridge

STARBASE One
Start Date: 1991
Service Component: Air National Guard
Military Location: Selfridge Air National Guard Base
Address:
P.O. Box 450082
27310 D Street Building 1051
Selfridge ANG Base, MI 48045
Tel: 586.239.4884
Fax: 586.239.5751
Director: Barbara Koscak
Email: MISTARBASE@aol.com
Website: www.STARBASEOne.org

School Districts & Schools
District: Anchor Bay School District
Ashley Elementary School
MacDonald Elementary School

District: Detroit Public School District
A.L. Holmes Elementary School
Bates Academy
Clippert Elementary School
Clippert Middle School
Emerson Elementary School
Enrich Home School
Golightly Educational Center
Harding Elementary School
Hutchinson Leadership Academy
John C. Marshall Elementary School
John R. King Elementary Academy
Macdowell Elementary School
Malcom X Elementary Academy
Mann Learning Center
Nolan Preparatory School
O.W. Holmes Elementary School
Plymouth Educational Center
Stark School of Technology

District: L'Anse Creuse Public School District
Carkenord Elementary School
South River Elementary School
Yacks Elementary School

District: Lamphere Public School District
Hiller Elementary School

District: New Haven Public School District
New Haven Elementary School

District: Taylor Public School District
Blair Moody Elementary School
Eureka Heights Elementary School
Fischer Elementary School
Holland Elementary School
Myers Elementary School
Taylor Parks Elementary School

MINNESOTA

Minneapolis/St. Paul

STARBASE Minnesota
Start Date: 1993
Service Component: Air National Guard
Military Location: 133rd Airlift Wing, Minnesota Air National Guard Base

Continued on following page

Address:
659 Mustang Avenue
St. Paul, MN 55111
Tel: 612.713.2530
Fax: 612.713.2540
Director: Kim Van Wie
Email: kvanwie@stabasemn.org
Website: www.starbasemn.org

School Districts & Schools
District: Minneapolis Public School District
Andersen Elementary School
Emerson Spanish Emersion Elementary School
Harvest Preparatory Academy
Jefferson Community School
Keewaydin Community School
Olson Upper Academy
Richard R. Green Central Park School
Sojourner Truth Academy

District: St. Paul Public School District
Achieve Language Academy
American Indian Magnet Elementary School
Ames Elementary School
Community of Peace School
Como Park Elementary School
Farnsworth Aerospace Magnet Elementary School
Four Seasons Elementary School
Franklin Music Magnet Elementary School
Hayden Heights Elementary School
Homecroft Elementary School
John Johnson Elementary School
New Spirit School
Phalen Lake Elementary School
Sheridan Elementary School
Urban Academy Charter School
World Cultures Magnet Elementary School

District: Waubun-Ogema White Earth School District
Ogema Elementary School

District: Other
Maternity of Mary – St. Andrew School
Risen Christ School
St. Agnes School
St. Bernard's School
St. Jerome's Elementary School
St. Matthew's Catholic School
St. Peter Claver School
Trinity Catholic School

MISSISSIPPI

Gulfport

STARBASE Atlantis-Gulfport
Start Date: 2001
Service Component: Navy
Military Location: Naval Construction Training Center
Address:
5510 CBC 8th Street
Gulfport, MS 39501
Tel: 228.871.3735
Fax: 228.871.3468
Director: Shelley Bard
Email: shelley.bard@navy.mil

School Districts & Schools
District: Gulfport School District
Anniston Elementary School
Bayou View Elementary School
Central Elementary School
Gaston Point Elementary School
Pass Road Elementary School
West Elementary School

District: Harrison County School District
Bel Aire Elementary School
D'Iberville Middle School
Lizana Elementary School
Lyman Elementary School
North Woolmarket Elementary School
Orange Grove Elementary School
Pineville Elementary School
Saucier Elementary School
Three Rivers Elementary School
West Wortham Elementary and Middle School
Woolmarket Elementary School

District: Long Beach School District
Harper-McCaughn Elementary School
Reeves Elementary School
W.J. Quarles Elementary School

District: Other
Coast Episcopal School
St. Vincent de Paul School

Meridian

STARBASE Atlantis-Meridian
Start Date: 2002
Service Component: Navy
Military Location: Naval Air Station Meridian
& Choctaw Indian Reservation
Address:
266 Rosenbaum Avenue
Meridian, MS 39309
Tel: 601.679.3809
Fax: 601.679.2448
Director: Pam Litton
Email: pam.litton@navy.mil

School Districts & Schools
District: Lauderdale County School District
Northeast Lauderdale Middle School

District: Meridian Public School District
Crestwood Elementary School
Harris Elementary School
Oakland Heights Elementary School
Poplar Springs Elementary School
West Hills Elementary School
Witherspoon Elementary School

District: Other
Calvary Christian Elementary School
Russell Christian School
St. Patrick's Elementary School

Choctaw (Outreach)

District: Choctaw Tribal School District
Bogue Chitto Elementary School
Conehatta Elementary School
Pearl River Elementary School
Red Water Elementary School
Standing Pine Elementary School
Tucker Elementary School

MONTANA

Helena

STARBASE Montana
Start Date: 2007
Service Component: National Guard
Military Location:
Address:
1956 Mt. Majo Street
P.O. Box 4789
Fort Harrison, MT 59636
Tel: 406.324.3727
Fax: 406.324.3735
Director: Michael Stone
Email: mstone@bresnan.net

School Districts & Schools
District: Augusta Public School District
Augusta Elementary School

District: East Helena Public School District
R.H. Radley Elementary School

District: Helena Public School District
Broadwater Elementary School
Bryant Elementary School
Central Elementary School
Four Georgians Elementary School
Hawthorne Elementary School
Jefferson Elementary School
Jim Darcy Elementary School
Kessler Elementary School
Rossitor Elementary School
Smith Elementary School
Warren Elementary School

District: Lincoln Public School District
Lincoln Elementary School

District: Montana City Public School District
Montana City Elementary School

District: St. Andrew's Catholic School District
St. Andrew's Elementary School

Continued on following page

NEBRASKA

Lincoln

STARBASE Nebraska
Start Date: 2002
Service Component: National Guard
Military Location: Air National Guard Base Lincoln
Address:
Penterman Armory Room 201
2400 NW 24th Street
Lincoln, NE 68524
Tel: 402.309.1044
Fax: 402.309.1045
Director: Sheryl Pawelko
Email: spawelko@starbasene.org
Website: www.starbasene.org

School Districts & Schools
District: Lincoln Public School District
Arnold Elementary School
Belmont Elementary School
Clinton Elementary School
Elliott Elementary School
Hartley Elementary School
Hawthorne Elementary School
Huntington Elementary School
McPhee Elementary School
Norwood Park Elementary School
Riley Elementary School
Saratoga Elementary School
West Lincoln Elementary School
Zeman Elementary School

District: Other
Cottonwood Christian Elementary School
Messiah Lutheran Elementary School
Massey Home School Academy
Maxwell Home School Academy
Parkview Christian Elementary School
Prairie View Christian School
St. John's Elementary School

NEW MEXICO

Albuquerque

AF STARBASE La Luz
Start Date: 2003
Service Component: Air Force
Military Location: Kirtland Air Force Base
Address:
P.O. Box 9556
Albuquerque, NM 87119
Tel: 505.846.8042
Fax: 505.846.8932
Director: Ronda Cole
Email: ronda.cole@kirtland.af.mil

School Districts & Schools
District: Albuquerque Public School District
Ernie Pyle Middle School
Jimmy Carter Middle School
La Academia de Esperanza Middle School
McKinley Middle School
Sandia Base Elementary School
Van Buren Middle School
Washington Middle School

District: Belen Consolidated School District
Belen Middle School

District: Bernalillo Public School District
Bernalillo Middle School
Santo Domingo Middle School

District: BIA – Southern Pueblos Agency
San Felipe Elementary School

District: Moriarty-Edgewood School District
Edgewood Middle School
South Mountain Elementary School

District: Rio Rancho Public School District
Eagle Ridge Middle School

District: Santa Fe Public School District
Kaune Elementary School

District: Socorro Consolidated School District
Cottonwood Valley Charter School

District: Other
Hope Christian School
Our Lady of Fatima Elementary School
Queen of Heaven Elementary School
St. Therese Elementary School

NORTH CAROLINA

Charlotte

STARBASE North Carolina- Charlotte
Start Date: 1993
Service Component: Air National Guard
Military Location: 145th Airlift Wing, NC Air National Guard
Address:
4930 Minuteman Way
Charlotte, NC 28208
Tel: 704.398.4819
Fax: 704.398.4822
Director: Barbara Miller
Email: Barbara.miller.ctr@ncchar.ang.af.mil

School Districts & Schools
District: Anson School District
Peachland-Polkton Elementary School

District: Charlotte-Mecklenburg School District
Devonshire Elementary School
Elon Park Elementary School
Pawtuckett Elementary School
Pineville Elementary School
Rama Road Elementary School
Reedy Creek Elementary School
Selwyn Elementary School
Smith Language Elementary Academy
Torrence Creek Elementary School

District: Davidson School District
Hasty Elementary School

District: Davie School District
Cooleemee Elementary School

District: Harnett School District
Johnsonville Elementary School

District: Lincoln School District
Rock Springs Elementary School

District: Nash School District
Nashville Elementary School

District: Thomasville City School District
Liberty Drive Elementary School

District: Yadkin School District
Jonesville Elementary School

Kure Beach

STARBASE North Carolina -Fort Fisher
Start Date: 2004
Service Component: Air National Guard
Military Location: NC National Guard Training Center
Address:
116 Air Force Way
Kure Beach, NC 28449
Tel: 910.251.7332
Fax: 910.252.7335
Director: Barbara Miller
Email: Barbara.miller.ctr@ncchar.ang.af.mil

School Districts & Schools
District: Brunswick School District
Belville Elementary School
Bolivia Elementary School
Jesse Mae Monroe Elementary School
Lincoln Elementary School
Southport Elementary School
Supply Elementary School
Union Elementary School
Virignia Williamson Elementary School
Winter Park Elementary School

District: Carteret School District
Morehead City Elementary School
Newport Elementary School

District: Craven School District
Havelock Elementary School

District: Martin School District
E.J. Hayes Elementary School

District: New Hanover School District
Blair Elementary School
Codington Elementary School
College Park Elementary School
Eaton Elementary School

Continued on following page

Freeman Elementary School
Gregory Elementary School of Math/Science
Parsley Elementary School
Wrightsville Beach Elementary

District: Pender School District
Malpass Corner Elementary School

NORTH DAKOTA

Minot

STARBASE North Dakota
Start Date: 2008
Service Component: Air Force
Military Location: Minot Air Force Base
Address:
101 C Street
Minot AFB, ND 58704
Tel: 701.727.3334
Director: Matt Balas
Email: matthew.balas@minot.k12.nd.us
Website: www.starbasend.org

School Districts & Schools
District: Eureka Public School District
District: Glenburn Public School District
District: Lewis & Clark Public School District
District: Max Public School District
District: Minot Public School District
District: Nedrose Public School District
District: South Prairie Public School District
District: Surrey Public School District
District: United Public School District

OHIO

Wright-Patterson

STARBASE Wright-Patt
Start Date: 2004
Service Component: Air Force
Military Location: Wright Patterson Air Force Base
Address:
DETI AFRL/WSSC
2130th 8th Street
WPAFB, OH 45433
Tel: 937.255.0692
Fax: 937.804.8622
Director: Kathleen Schweinfurth
Email: Kathleen.schweinfurth@wpafb.af.mil
Website: http://edoutreach.wpafb.af.mil/starbase.htm

School Districts & Schools
District: Beavercreek City School District
Parkwood Elementary School

District: Fairborn City School District
Fairborn Intermediate School

District: Mad River Township School District
Spinning Hills Middle School

District: Miamisburg City School District
Bear Elementary School
Kinder Elementary School

District: Northeastern Local School District
South Vienna Elementary School

District: Springfield City School District
Horace Mann Elementary School
Kenwood Elementary School
Lagonda Elementary School
Perrin Woods Elementary School
Simon Kenton Elementary School
Snowhill Elementary School
Snyder Park Elementary School
Warder Park Wayne Elementary School

District: Other
Dayton Islamic School
St. Rita Catholic School

OKLAHOMA

Oklahoma City

STARBASE Oklahoma – Oklahoma City
Start Date: 2001
Service Component: Air National Guard
Military Location: 137th Fighter Wing,
OK Air National Guard,
Will Rogers Air National Guard Base
Address:
5920 Air Guard Drive
Oklahoma City, OK 73179
Tel: 405.686.5950
Fax: 405.686.5229

Director: Bill Scott
Email: bill.scott@oktuls.ang.af.mil
Website: www.starbaseok.org

School District & Schools
District: Midwest City-Dell City Public School District
Del City Elementary School

District: Millwood Public School District
Millwood Arts Academy
Millwood Elementary

District: Oklahoma City Public School District
Coolidge Elementary School
Horace Mann Elementary School

District: Union City School District
Union City Elementary School

District: Western Heights Public School District
Council Grove Elementary
John Glenn Elementary

District: Other
Bishop John Carroll Catholic School
Marcus Garvey Leadership Charter School
St. Charles Borromeo Catholic School
St. Philip Neri Catholic School

Tulsa

STARBASE Oklahoma- Tulsa & NAI
Start Date: 1993
Service Component: Air National Guard
Military Location: 138th Fighter Wing, Tulsa ANG Base
Address:
9131 E Viper Street
Tulsa, OK 74112
Tel: 918.833.7757
Fax: 918.833.7769
Director: Bill Scott
Email: bill.scott@oktuls.ang.af.mil
Website: www.starbaseok.org

School Districts & Schools
District: Anderson Public School District
Anderson Elementary School

District: Barnsdall Public School District
Barnsdall Elementary School

District: Bixby Public School District
Bixby Central Elementary School
Bixby 5th & 6th Grade Center North
Brassfield 5th & 6th Grade Center

District: Claremore Public School District
Claremore Upper Elementary School

District: Tulsa Public School District
Bell Elementary School
Bryant Elementary School
Greeley Elementary School
Hawthorne Elementary School
McKinley Elementary School
Owen Elementary School
Roosevelt Elementary School

District: Other
Rejoice Christian Academy
Saints Peter & Paul Catholic School
Saint Pius X Catholic School

Native American Initiative (Outreach)

School Districts & Schools
District: Boone-Apache Public School District
Boone-Apache Elementary School

District: Braggs Public School District
Braggs Elementary School

District: Carnegie Public School District
Carnegie Elementary School

District: Cyril Public School District
Cyril Elementary School

District: Elgin Public School District
Elgin Elementary School

District: Gore Public School District
Gore Elementary School
Gore Upper Elementary School

District: Kansas Public School District
Kansas Elementary School

District: Muskogee Public School District
Creek Elementary School

Continued on following page

District: Norwood Public School District
Norwood Elementary School

District: Oktaha Public School District
Oktaha Elementary School

District: Osage Public School District
Osage Elementary School

District: Pioneer Public School District
Pioneer Elementary School

District: Porum Public School District
Porum Elementary School

District: Pryor Public School District
Jefferson Elementary School
Lincoln Elementary School
Washington Elementary School

District: Tahlequah Public School District
Woodall Elementary School

District: Warner Public School District
Warner Elementary School

District: Webbers Falls Public School District
Webbers Falls Elementary School

District: Other
St. Joseph's Catholic School
United Methodist Boys Ranch

OREGON

Klamath Falls

STARBASE Kingsley
Start Date: 2000
Service Component: Air National Guard
Military Location: Oregon National Guard, 173rd FW, Kingsley Field
Address:
302 Bong Street, Suite 19
Klamath Falls, OR 97603
Tel: 541.885.6472
Fax: 541.885.6196
Director: Marsha Beardslee
Email: starbase2@earthlink.net
Website: www.starbasekingsley.org

School Districts & Schools
District: Klamath County School District
Altamont Elementary School
Chiloquin Elementary School
Fairhaven Elementary School
Ferguson Elementary School
Henley Elementary School
Keno Elementary School
Malin Elementary School
Merrill Elementary School
Peterson Elementary School
Shasta Elementary School
Stearns Elementary School

District: Klamath Falls City School District
Conger Elementary School
Fairview Elementary School
Mills Elementary School
Pelican Elementary School
Roosevelt Elementary School

District: Other
Hosanna Christian School

Portland

STARBASE Portland
Start Date: 1993
Service Component: Air National Guard
Military Location: Jackson Armory/Portland Air National Guard Base
Address:
6255 NE Cornfoot Road
Portland, OR 97218
Tel: 503.916.5404 ext. 1061
Fax: 503.916.2795
Director: Marilyn Sholian
Email: Msholian@pps.k12.or.us
Website:
www.mil.state.or.us/starbaseor/starbasepdx/starbase.html

School Districts & Schools
District: Portland Public School District
Alameda Elementary School
Atkinson Elementary School
Capital Hill Elementary School
Clark Elementary School
Duniway Elementary School
Grout Elementary School
Kelly Elementary School

Llewellyn Elementary School
Maplewood Elementary School
Marysville Elementary School
Sabin Elementary School
Vestal Elementary School
Woodmere Elementary School

District: Centennial School District
Lynch Meadow Elementary School

District: Other
Damascus Christian

PENNSYLVANIA

Pittsburgh

STARBASE Atlantis-Pittsburgh
Start Date: 2002
Service Component: Navy
Military Location: Naval Operational Support Center
Address:
625 East Pittsburgh/McKeesport Blvd.
North Versailles, PA 15137
Tel: 412.672.4890
Fax: 412.672.4894
Director: Ken C. Mechling, Jr.
Email: starbase.ken.mechlingjr@comcast.net
Website: www.starbase-atlantis-pittsburgh.org

School Districts & Schools
District: California Area School District
California Area Elementary School

District: East Allegheny School District
Logan Middle School

District: McKeesport Area School District
Cornell Intermediate School

District: Monessen City School District
Monessen Elementary Center

District: Penn Hills School District
Penn Hebron Elementary Academy

District: Pittsburgh Public School District
Urban League of Greater Pittsburgh Charter School

District: Other
Good Shepherd Catholic Elementary School
St. Bernadette Elementary School
St. Irenaeus Elementary School
St. Joseph Elementary School
Word of God Catholic Elementary School

PUERTO RICO

Carolina

STARBASE Puerto Rico
Start Date: 1995
Service Component: Air National Guard
Military Location: Puerto Rico National Guard, Muñiz AFB
Address:
200 Jose A. Santana Ave.
Muñiz ANG
Carolina, PR 00979
Tel: 787.253.7502
Fax: 787.253.2513
Director: Idabells Matos
Email: idabells.matos@prsdanj.ang.af.mil

School Districts & Schools
District: Arecibo Educational Region
Escuela Elemental José Meléndez Ayala
Escuela Intermedia Antonio Reyes
Escuela Elemental Marta La Fontaine
Escuela Elemental Rosa E. Molinary
Escuela Christian Military Academy

District: Bayamón Educational Region
Escuela Intermedia Abelardo Díaz Alfaro
Escuela Intermedia Apolo San Antonio
Escuela Elemental Delia Daría de Cabán
Escuela Elemental Cristóbal Colón
Escuela Elemental Francisco Felicié
Escuela Intermedia Jesús Sánchez Erazo
Escuela Elemental José M. Del Valle
Escuela Elemental José A. Nieves
Escuela Intermedia Manuel Bou Galí
Escuela Intermedia Maria Vázquez de Umpierre

District: Caguas Educational Region
Escuela Intermedia Anselmo Vázquez
Escuela Intermedia Colegio San Francisco de Asís
Escuela Elemental Inés Mendoza
Escuela Elemental José Mercado

Continued on following page

Escuela Elemental S.U. Sumidero
Escuela Elemental Santa Clara

District: Humacao Educational Region
Escuela Elemental Antera Rosado
Escuela Intermedia Antonio R. Barceló
Escuela Intermedia Carlos Rivera Ufret
Escuela Elemental Eugenio Maria de Hostos
Escuela Intermedia Juan Ponce de León
Escuela Elemental La Ponderosa
Escuela Intermedia Rosa Costa Valdivieso

District: Mayaguez Educational Region
Escuela Intermedia Aguadilla Military Academy
Escuela Intermedia Antonio Badillo
Escuela Intermedia Emilio Scharón
Escuela Elemental Georgina Alvarado
Escuela Elemental José González Ruíz
Escuela Elemental Juan Cardona
Esuela Intermedia Juan B. Soto
Esuela Intermedia Narciso Rabell

District: Morovis Educational Region
Escuela Elemental Espseranza Gonzáles
Escuela Intermedia José Berrios Berdecía

District: Ponce Educational Region
Escuela Elemental Ana M. Hernández
Escuela Intermedia Colegio Santisimo Rosario
Escuela Intermedia Le Compte
Escuela Elemental Luis A. Ferré Aguayo
Escuela Elemental Purificacion Rodríguez
Escuela Intermedia Rafael Irizarry Rivera
Escuela Elemental Santiago Collazo

District: San Germán Educational Region
Escuela Elemental Federico Degetau

District: San Juan Educational Region
Escuela Intermedia Antonio Sarriera
Escuela Elemental Berwind
Escuela Intermedia Berwind
Escuela Elemental C.I.E.M
Escuela Intermedia Eduardo J. Saldaña
Escuela Elemental Emilio Castellar
Escuela Intermedia Manuel Febres González
Escuela Elemental Jesús M. Quiñones
Escuela Intermedia Jesús Rivera Bultrón
Escuela Intermedia Las Américas
Escuela Elemental López Sicardo
Escuela Intermedia Rafael M. Labra
Escuela Elemental República del Brasil
Escuela Intermedia Venus Gardens

RHODE ISLAND

Newport

STARBASE Atlantis-Newport
Start Date: 2002
Service Component: Navy
Military Location: Naval Station Newport
Address:
Perry Hall, Bldg. 440
440 Meyerkord Ave.
Newport, RI 02841
Tel: 401.841.4072
Fax: 401.841.4075
Director: Patrick F. Rossoni
Email: patrick.rossoni@navy.mil

School Districts & Schools
District: Bristol/Warren Regional School District
Byfield Elementary School
Colt/Andrews Elementary School
Guiteras Elementary School
Hugh Cole Elementary School
Reynolds Elementary School
Rockwell Elementary School

District: Middletown Public School District
Joseph H. Gaudet Middle School

District: Newport Public School District
Carey Elementary School
Coggeshall Elementary School
Cranston-Calvert Elementary School
Sullivan Elementary School
Underwood Elementary School

District: North Kingstown School Department
Hamilton Elementary School
Quidnesset Elementary School

District: Portsmouth School Department
Portsmouth Middle School

SOUTH CAROLINA

Beaufort

STARBASE MCAS Beaufort
Start Date: 1999
Service Component: Marine Corps
Military Location: Marine Corps Air Station Beaufort
Address:
P.O. Box 55013
Bldg 660
Beaufort, SC 29904
Tel: 843.524.1320
Fax: 843.524.1326
Director: Wendell Roberson, Sr.
Email: starbasemcas1@embarqmail.com
Website:
www.homestead.com/starbaseinc/homeindex.html

School District & Schools
District: Beaufort County School District
Beaufort Elementary School
Bluffton Elementary School
Broad River Elementary School
Coosa Elementary School
Hilton Head School for the Creative Arts
James J. Davis Elementary School
Joseph F. Shanklin Elementary School
Lady's Island Elementary School
Mossy Oaks Elementary School
Okatie Elementary School
Port Royal Elementary School
M.C. Riley Elementary School
Shell Point Elementary School
St. Helena Elementary School
Whale Branch Elementary School

District: Colleton County School District
Bells Elementary School
Black Street Elementary School
Cottageville Elementary School
Forest Hills Elementary School
Hendersonville Elementary School
Northside Elementary School

District: DoD Schools
Bolden Elementary School

District: Hampton County School District 1
Brunson Elementary School
Fennell Elementary School
Hampton Elementary School
Varnville Elementary School

District: Hampton County School District 2
Estill Elementary School

District: Jasper County School District
Ridgeland Elementary School

District: Other
Agape Christian Academy
Beaufort Academy
Beaufort Marine Institute
Community Bible Christian Academy
Home School Group of the Lowcountry
St. Peter's Catholic School

Columbia

STARBASE Swamp Fox
Start Date: 2001
Service Component: Air National Guard
Military Location: McEntire Joint National Guard Base
Address:
1325 South Carolina Road
Stop #39
Eastover, SC 29044
Tel: 803.647.8126
Fax: 803.647.8195
Director: John Motley
Email: john.motley.1@scmcen.ang.af.mil
Website: www.starbasesc.com

School Districts & Schools
District: Richland County School District 1
Arden Elementary School
Caughman Road Elementary School
Forest Heights Elementary School
Gadsden Elementary School
Hopkins Elementary School
Horrell Hill Elementary School
Meadowfield Road Elementary School
South Kilbourne Elementary School
Webber Elementary School

District: Richland County School District 2
Lake Carolina Elementary School

Continued on following page

District: Other
Birchwood School
Glenforest School

Saint Joseph Elementary School
Southeast Family Educators
Timmerman School

SOUTH DAKOTA

Rapid City

STARBASE Rapid City
Start Date: 2002
Service Component: Air National Guard
Military Location: SD National Guard, Camp Rapid
Address:
Building 123
2823 West Main Street
Rapid City, SD 57702
Tel: 605.737.6083
Fax: 605.737.6082
Director: Sarah Jensen
Email: RCSTARBASE@hotmail.com

School Districts & Schools
District: Douglas School District 51-1
Vandenburg Elementary School

District: Rapid City Area School District 51-4
Black Hawk Elementary School
Canyon Lake Elementary School
General Beadle Elementary School
Horace Mann Elementary School
Knollwood Elementary School
Rapid Valley Elementary School
Robbinsdale Elementary School
South Park Elementary School
Valley View Elementary School
Woodrow Wilson Elementary School

District: Other
Home School Association
Zion Lutheran Elementary School

Sioux Falls

STARBASE Sioux Falls
Start Date: 1994
Service Component: National Guard
Military Location: SD Army & Air Guard Bases
Address:
801 W. National Guard Drive
Sioux Falls, SD 57104
Tel: 605.367.4930
Fax: 605.367.4926
Director: Susan Winter
Email: sdstarbase@hotmail.com

School Districts & Schools
District: Garretson Public School District
Garretson Public School

District: Sioux Falls Catholic School District
St. Joseph Cathedral Elementary School

District: Sioux Falls Public School District
All City Elementary School
Axtell Park Middle School
Anne Sullivan Elementary School
Eugene Field Elementary School
Garfield Elementary School
Hawthorne Elementary School
Hayward Elementary School
Jefferson Elementary School
Laura B. Anderson Elementary School
Longfellow Elementary School
Lowell Elementary School
Renberg Elementary School
Terry Redlin Elementary School

NOVA (Native American Outreach)

School Districts & Schools
District: American Horse School 03301
American Horse Elementary School

District: Cheyenne River BIA Schools 20302
Cheyenne Eagle Butte Upper Elementary School

District: Custer School District 16-1
Custer Elementary School

District: Crow Creek Sioux Tribal School 34301
Crow Creek Elementary School

District: Dupree School District 64-2
Dupree Elementary School

District: Little Wound School System 65306
Little Wound Elementary School

District: Loneman School Corporation 65307
Loneman Elementary School

District: Lower Brule School System 42301
Lower Brule Elementary School

District: Red Cloud Indian School 65301
Our Lady of Lourdes Elementary School
Red Cloud Elementary School

District: St. Joseph's Indian School 32305
St. Joseph's Elementary School

District: Timber Lake School District 20-3
Timber Lake Elementary School

District: Tiospaye Topa School System 20303
Tiospaye Topa Elementary School

District: Todd County School District 66-1
Mission South Elementary School
Rosebud Elementary School

TEXAS

Corpus Christi

STARBASE Atlantis- Corpus Christi
Start Date: 2006
Service Component: Navy
Military Location: Naval Air Station Corpus Christi
Address:
11001 D Street
Building 60
Corpus Christi, TX 78419
Tel: 361.961.5318
Fax: 361.961.3566
Director: Crystal Trujillo
Email: crystal.trujillo@navy.mil

School Districts & Schools
District: Corpus Christi Independent School District
Early Childhood Development Center
Faye Webb Elementary School
Luther Jones Elementary School
Meadowbrook Elementary School
Weldon Smith Elementary School

District: Flour Bluff Independent School District
Flour Bluff Intermediate School

District: Other
St. Pius X Catholic School

Houston

Texas STARBASE
Start Date: 1994
Service Component: Air National Guard
Military Location: Texas National Guard, Ellington Field
Address:
14657 Sneider Street, Bldg. 1055
Houston, TX 77034
Tel: 281.929.2034
Fax: 281.929.2036
Director: Gail Whittemore-Smith
Email: gail.whittemore@txelli.ang.af.mil

School Districts & Schools Served
District: Cleveland Independent School District
Eastside Intermediate School

District: Dickinson Independent School District
K.E. Little Elementary School

District: Galena Park Independent School District
MacArthur Elementary School

District: Hitchcock Independent School District
Crosby Middle School

District: Houston Independent School District
Cornelius Elementary School
Dodson Elementary School
Gordon Elementary School
Lantrip Elementary School
Law Elementary School
Park Place Elementary School
Pleasantville Elementary School
Pugh Elementary School
Betsy Ross Elementary School

District: La Marque Independent School District
Highlands Elementary School

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District: Pasadena Independent School District
Jensen Elementary School
Morris 5th Grade Center
Meador Elementary School
Pomeroy Elementary School

District: Sheldon Independent School District
Monahan Elementary School
Royalwood Elementary School
Sheldon Elementary School

District: Shepherd Independent School District
Shepherd Intermediate School

District: Other
Holy Cross Catholic School
Our Lady of Fatima Catholic School
St. Mary's Catholic School
Gulf Coast Christian Scholars Home School

San Antonio

STARBASE Kelly
Start Date: 1995
Service Component: Air Force Reserve
Military Location: Lackland Air Force Base
Address:
203 Galaxy Road Suite 112
Lackland AFB, TX 78236
Tel: 210.925.3708
Fax: 210.925.3702
Director: Ron Jackson
Email: starbase@stic.net

School Districts & Schools
District: Edgewood ISD
Roosevelt Elementary School
Winston Elementary School

District: Lackland ISD
Lackland Elementary School

District: San Antonio ISD
Bowden Elementary School
Pfeiffer Academy
Riverside Park Elementary School
Tynan Elementary School

District: South San Antonio ISD
Kindred Elementary School
Palo Alto Elementary School

District: Southwest ISD
Kriewald Road Elementary School
Sky Harbour Elementary School

District: Other
Blessed Sacrament Elementary School
St. Paul's Catholic Elementary School

VERMONT

Rutland

STARBASE Vermont – Rutland
Start Date: 2001
Service Component: Air National Guard
Military Location: Vermont Army National Guard
Address:
Rutland Armory
15 West Street
Rutland, VT 05701
Tel: 802.786.3820
Fax: 802.728.3822
Director: Doug Gilman
Email: Douglas.gilman@vtburl.ang.af.mil
Website: www.starbasevt.org

School Districts & Schools
District: Addison Central Supervisory Union
Ripton Elementary School
Salisbury Community Elementary School

District: Addison Rutland Supervisory Union
Bensen Village Elementary School
Orwell Village Elementary School

District: Rutland Central Supervisory Union
Rutland Town Elementary School
West Rutland Elementary School

District: Rutland City School District
Rutland City Intermediate School

District: Rutland Northeast Supervisory Union
Leicester Elementary School
Neshobe Elementary School

District: Rutland South Supervisory Union
Clarendon Elementary School
Wallingford Elementary School

District: Rutland Southwest Supervisory Union
Poultney Elementary School

District: Rutland Windsor Supervisory Union
Ludlow Elementary School
Mount Holly Elementary School

District: Southwest Vermont Supervisory Union
Bennington Elementary School
Shaftsbury Elementary School

District: Windham Central Supervisory Union
Windham Elementary School

District: Windsor Central Supervisory Union
Sherburne Elementary School

District: Windsor Southeast Supervisory Union
Windsor State Street Elementary School

District: Windsor Southwest Supervisory Union
Cavendish Town Elementary School

District: Other
Christ the King Elementary School
Rutland Area Christian Elementary School
St. Mary's Elementary School

South Burlington

STARBASE Vermont – South Burlington
Start Date: 1994
Service Component: Air National Guard
Military Location: Vermont Air National Guard, 158th FW
Address:
100 NCO Drive
South Burlington, VT 05403
Tel: 802.660.5201
Fax: 802.660.5940
Email: douglas.gilman@vtburl.ang.af.mil
Website: www.starbasevt.org

School Districts & Schools
District: Addison Northeast Supervisory Union
Bristol Elementary School

District: Addison Northwest Supervisory Union
Vergennes Elementary School

District: Burlington Public School District
C.P. Smith Elementary School
H.O. Wheeler Elementary School
J. J. Flynn Elementary School
Lawrence Barnes Elementary School

District: Caledonia Central Supervisory Union
Danville Elementary School
Walden Elementary School

District: Franklin Central Supervisory Union
St. Albans Town Elementary School

District: Franklin Northeast Supervisory Union
Bakersfield Elementary School

District: Grand Isle Supervisory Union
Folsom South Hero Elementary School
Grand Isle Elementary School
North Hero Elementary School

District: Lamoille North Supervisory Union
Cambridge Elementary School

District: Orleans Central Supervisory Union
Albany Community Elementary School

District: Orleans Southwest Supervisory Union
Craftsbury Elementary School
Hardwick Elementary School
Lakeview Elementary School

District: Washington Central Supervisory Union
East Montpelier Elementary School

District: Washington South Supervisory Union
Northfield Elementary School

District: Winooski School District
JFK Winooski Elementary School

District: Other
Good Shepherd Elementary School
Home School Group

Continued on following page

VIRGINIA

Norfolk

STARBASE Atlantis – Norfolk
Start Date: 1995
Service Component: Navy
Military Location: Naval Station Norfolk
Address:
Building N25 Room 252
1474 Gilbert Street
Norfolk, VA 23511
Tel: 757.445.5905
Fax: 757.445.2624
Director: Scott Weltzin
Email: scott.weltzin@navy.mil
Website:
https://www.netc.navy.mil/centers/starbase.norfolk/index.html

School Districts & Schools
District: Norfolk Public School District
Fairlawn Elementary School
Ghent School (Grades K-8)
Ingleside Elementary School
James Monroe Elementary School
Lindenwood Elementary School
Oakwood Elementary School
Oceanair Elementary School
P.B. Young Sr. Elementary School
St. Helena Elementary School
Tidewater Park Elementary School
Willoughby Elementary School

WASHINGTON

Silverdale

STARBASE Atlantis-Silverdale
Start Date: 2001
Service Component: Navy
Military Location: Trident Training Facility
Naval Base Kitsap
Address:
2000 Thresher Ave.
Room D-222
Silverdale, WA 98315
Tel: 360.315.2671
Fax: 360.315.2747
Director: Morrell Yates
Email: morrell.yates@navy.mil
Website: https://www.npdc.navy.mil/slc/ttfbangor/

School Districts & Schools
District: Bremerton School District
Kitsap Lake Elementary
View Ridge Elementary School

District: Central Kitsap School District
Brownsville Elementary School
Cotton Wood Elementary School
Emerald Heights Elementary School
Green Mountain Elementary School
Jackson Park Elementary School
Pine Crest Elementary School
Silver Ridge Elementary School

District: Chimacum School District
Chimacum Elementary School

District: North Kitsap School District
Breidablick Elementary School
Gordon Elementary School
Hilda Pearson Elementary School
Poulsbo Elementary School
Suquamish Elementary School
Vineland Elementary School
Wofle Elementary School

District: Other
Peace Lutheran Elementary School

West Virginia

Charleston

West Virginia STARBASE Academy
Start Date: 2001
Service Component: Air National Guard
Military Location: 130th Airlift Wing, WV National Guard
Address:
1679 Coonskin Drive
Charleston, WV 25311
Tel: 304.341.6441
Fax: 304.341.6445
Director: Chris Treadway
Email: starbase@wvchar.ang.af.mil
Website: www.wvstarbase.org

School Districts & Schools
District: Kanawha County School District
Alban Elementary School
Andrews Heights Elementary School
Belle Elementary School
Bonham Elementary School
Bridge Elementary School
Bridgeview Elementary School
Cedar Grove Community School
Central Elementary School
Chamberlain Elementary School
Chesapeake Elementary School
Clendenin Elementary School
Cross Lanes Elementary School
Elk Elementary Center
Flinn Elementary School
Glenwood Elementary School
Holz Elementary School
J.E. Robins Elementary School
Kanawha City Elementary School
Kenna Elementary School
Lakewood Elementary School
Malden Elementary School
Marmet Elementary School
Mary Ingles Elementary School
Midland Trail Elementary School
Montrose Elementary School
Nitro Elementary School
Overbrook Elementary School
Piedmont Year-Round Education
Pinch Elementary School
Pratt Elementary School
Richmond Elementary School
Ruffner Elementary School
Ruthlawn Elementary School
Sharon Dawes Elementary School
Shoals Elementary School
Sissonville Elementary School
Watts Elementary School
Weberwood Elementary School
Weimer Elementary School

District: Other
Bible Center Christian School
St. Anthony Catholic School

Martinsburg

STARBASE Martinsburg
Start Date: 2002
Service Component: Air National Guard
Military Location: 167th Airlift Wing, Martinsburg
Address:
222 Sabre Jet Blvd.
Room 104
Martinsburg, WV 25405
Tel: 304.616.5501
Fax: 304.616.5478
Director: Sherra Triggs
Email: starbase@wvmart.ang.af.mil
Website: http://www.wvstarbase.org

School Districts & Schools
District: Berkeley County Public School District
Eagle Intermediate School
Mill Creek Intermediate School
Mountain Ridge Intermediate School
Orchard View Intermediate School
Potomac Intermediate School
Tomahawk Intermediate School

WYOMING

Cheyenne

STARBASE Wyoming
Start Date: 1994
Service Component: Air National Guard
Military Location: 153rd Airlift Wing, WY National Guard
Address:
217 Dell Range Boulevard
Cheyenne, WY 82009
Tel: 307.772.6161
Fax: 307.772.6017
Director: David Orr
Email: davido@starbasewy.org
Website: www.starbasewy.org

School Districts & Schools
District: Laramie County School District #1
Afflerbach Elementary School
Alta Vista Elementary School
Anderson Elementary School
Arp Elementary School
Baggs Elementary School

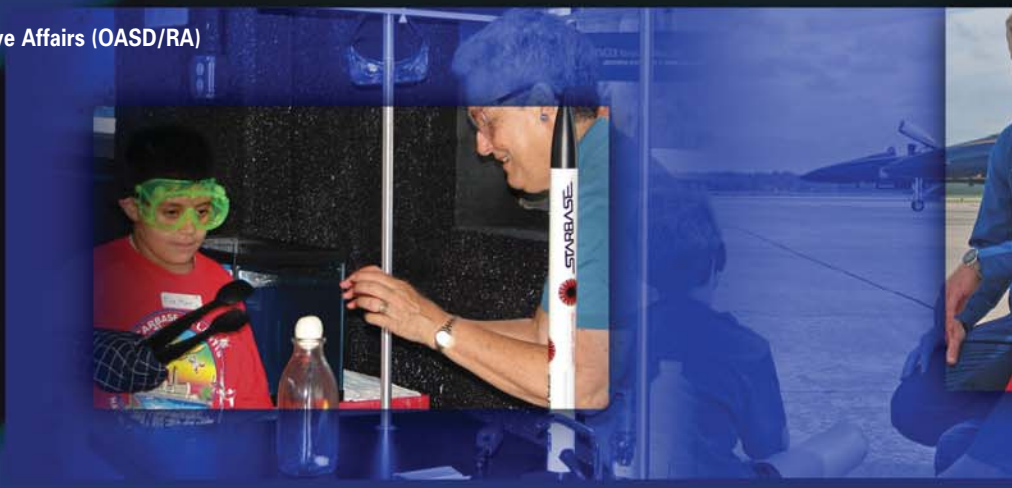
Continued on following page

Bain Elementary School
Buffalo Ridge Elementary School
Clawson Elementary School
Cole Elementary School
Davis Elementary School
Dildine Elementary School
Fairview Elementary School
Freedom Elementary School
Gilchrist Elementary School
Goins Elementary School
Hebard Elementary School
Henderson Elementary School
Hobbs Elementary School
Jessup Elementary School
Miller Elementary School
Pioneer Park Elementary School
Rossman Elementary School
Sunrise Elementary School
Willadson Elementary School

District: Laramie County School District #2
Albin Elementary School
Carpenter Elementary School
Pine Bluffs Elementary School
West Elementary School

District: Other
Noah Webster Christian School
St. Mary's Catholic School
Trinity Lutheran School

DoD STARBASE
A Department of Defense Youth Program

For More Information Contact:

Office of the Secretary of Defense/Reserve Affairs (OASD/RA)
1500 Defense Pentagon
Washington, DC 20301-1500
Phone: 703.693.8630