The STARBASE Monthly Newsletter

January 2013

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A Department of Defense Youth Program

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LOOKING AT STARBASE THEN & NOW

LAUNCHING STARBASE OF CALIFORNIA:

A glimpse into an extraordinary STARBASE experience.

Started on July 22, 1993, STARBASE of California in Sacramento, housed at the Old Sacramento Army Depot, was among the original STARBASE sites to receive federal funding for their program. The program was originally directed by Lieutenant Colonel Tom Edwards and Captain Susan Minkema; however, the current director, Sergeant Major John Lamb has been with the program since 1998 when he started as an instructor. Under Lamb's direction, the program is a roaring success, serving thousands of children a year.

Sacramento's program utilizes an execution approach that differs from the traditional STARBASE model. In addition to those classes conducted the Army Depot, the program also has several classrooms in locations around the community. It is with the strong support and endorsement of several surrounding school districts that the Sacramento program is able to serve many children every year. In fact, last year they celebrated their 45,000th student and honored the milestone with a class photo, see top of page 3.

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HISTORY

At their site, STARBASE of California runs a five-day program where the culminating activity is the launch of a solid propellant rocket. Their schedule configuration of the approved national STARBASE curriculum makes it possible for their program to cover 109 California State Standards, 41 at the 5th grade level and 68 math and science standards at the 6-8th grade level, and provides some of the only hands-on STEM activity time the students they serve receive throughout their school year.

In addition to a dedicated staff and neighboring school system support, Lamb is clearly a valuable asset to the Sacramento program. His enthusiasm about STARBASE is palpable, and he is quick to explain that he lives and breathes STARBASE 24/7.

He has personally visited 13 different STARBASE locations around the country and is excited to see more. The contagiousness of this enthusiasm for learning is evident in his continued contact with former students, several of whom have come back to STARBASE over the summer as counselors for the camps.

Lamb is constantly on the look out for ways to expand the connection between the program and state education efforts and initiatives

and to give students more opportunities to work with STEM concepts following the hands-on model. "The cool thing about STARBASE is that we are a hands-on program. It's only cool if the students get to do it!" says Lamb.

He is also part of the recently convened California Department of Education's STEM Task Force, and efforts like these have lead to a range of exciting opportunities for his students and connectedness for his program. Below are just a few examples:

AWARDS AND HONORS

- 2010: Chapter III Education Award
- 2004: Heart of a Hero Award
- 2004-2006: Teacher of the Year
- Acknowledged as an "exemplar" by the California Department of Education as the only program in California that truly teaches all four STEM goals and objectives for K-8.

- Participating in the California Linked Learning Program. This is a program created in response to an increase in dropout rates that aims to create a pathway from seventh grade up, focusing on providing technical training and preparing students for industry or further postsecondary education options.
- Hosting yearly summer camps serving 100-150 students in two to three one week camps.
- Fostering opportunities with larger tech companies in the area.
- Developing more advanced education options, similar to STARBASE 2.0, for past students.
- Providing opportunities for student teachers and classroom teachers to receive further training to support their teaching credentials.

> "The cool thing about STARBASE is that we are a hands-on program. It's only cool if the students get to do it!" says John Lamb.

BASIC ADDITIONS

Changes to Math Operations & Applications: B. Measurement.

Over the past few months, the new look and changes to the curriculum have been highlighted in *Discover STARBASE Today* to provide more information and instruction to each site about how these changes will affect you. This month's introduction to the new Basic Measurement lessons plans is no exception.

It has been challenging to make our stand-alone math lessons meaningful and integrated into our curriculum. One area that typifies this concern is the current measurement curriculum option: "Metric Mission." To alleviate this problem, the Curriculum Committee has made some modifications to this section of the STARBASE curriculum to better accommodate and facilitate future growth in this core area. Those changes are outlined below. These lessons are still in the process of final approval and will soon be available on the STARBASE website.

Change in Objectives

Previously, there was one Math Operations & Applications: B. Measurement objective: "The learner will select and apply appropriate standard units and tools to measure length, area, volume, mass, and degree of angles." This set up required proposed lesson plans to incorporate all the measurement components into one activity to meet the objective. That one objective has now been split into three objectives. This change allows for the development of strong lesson plans and activities that can satisfy appropriate measurement objectives without stretching to include those that might not fit.

Moving Angles

Work with measuring angles will be relocated to the C. Geometry section, and the Measurement section will cover length, liquid volume, and mass.

"Basic" Designator

The three lesson plans in the Measurement area labeled "basic" are required lessons, including "Basic Measurement: Length," "Basic Measurement: Liquid Volume," and "Basic Measurement: Mass." It is likely this "basic" naming scheme will be adopted in other areas of our curriculum to facilitate the identification of the lessons that are required to be included in your schedule.

These three lessons include information about how to introduce students to these essential measurement skills and choices for activities that will provide students the hands-on experience vital for their core understanding of these concepts.

Hands-On Activities

The Curriculum Committee understands that there are opportunities within other lessons that give instructors strong places to introduce the concepts outlined in these three measurement lesson plans. These activities offer increased understanding because of the immediate application of the skill.

There will be two types of hands-on activities outlined in each Basic Measurement lesson plan:

1. Instructors will have the choice to conduct the individual activities presented in the original "Metric Mission" lesson plan. These activities are all embedded in each Basic Measurement lesson plan. If there is an aspect of "Metric Mission" your site wants to continue utilizing, the activities are all still approved.
2. Throughout the STARBASE curriculum, activities will be identified that can be used as the hands-on activity for each skill area. In these lesson plans, the symbols below will indicate where these activities are located*, and a list of approved hands-on activities is included in each Basic Measurement lesson. Examples of the types of these activities are listed below. Instructors will first need to present the introductory material about each skill area, but the hands-on component can be conducted in the context of the approved activity.

The Curriculum Committee strongly believes this revision of the Math Operations & Applications: B. Measurement section will strength our overall curriculum and instruction for our students. We hope that you and your students will enjoy this new approach.

Examples of Approved Basic Measurement Activities

Length	» Rocketry Appendices » Introduction to Navigation and Mapping Appendices » Pop! Goes the Fizz
Liquid Volume	» Introduction to Physical and Chemical Changes » Pop! Goes the Fizz
Mass	» Rocketry Appendices » Fluid Investigations » Eggbert

*The symbols indicating the location of the activity in each activity will be added as the lesson plans are revised into the new format.

LEGO CREATIONS EVENT

How STARBASE Robins is inspiring creativity.

On January 5, 2013, STARBASE Robins and the Museum of Aviation on the Robins Air Force Base in Georgia teamed together to sponsor the FIRST LEGO League Super Regional Robotics Tournament. This event was a second round competition for teams that had passed first round qualifications at a local level before advancing to the state level competition at Georgia Tech. Forty teams participated in the all-day event, including two STARBASE 2.0 teams.

As a precursor to this event, STARBASE Robins and the museum held a Facebook campaign called the STARBASE Robins LEGO Creation Event to get the word out and stimulate interest. Started in 2011, the creation event asked participants to "imagine," "design," and "create" a unique creation using LEGO bricks and parts and submit a picture of the creation to be uploaded to the STARBASE Robins Facebook page. Participants could submit up to three designs, and the response over the last two years has drawn entries from a variety of ages and locations around the country, including participation from other STARBASE sites. Some of this year's entries are pictured below.

From the submissions posted, the winner of the event is randomly chosen and receives a STARBASE Robins t-shirt as a prize. Wesley Fondal, director of STARBASE ROBINS, says, "We hope creations like these lead to an interest in 'STEM,' science, technology, engineering and math. This is not a competition, just a way to show what kids can do with Legos."

Events like this one that reach out to the larger community, this time utilizing social media tools, serve a vital purpose to support the STARBASE mission and enhance our nationwide STEM education initiatives.

"B-1B"--Mike

"Moo Life"--Hannah

BUMPING INTO A STARBASE ALUMNUS

Students at STARBASE Kelly got a look at a STARBASE alumnus in action when boarding a C-5 aircraft for a tour late last year, Ron Jackson reported recently.

One of their escorts was a young female loadmaster, A1C Jaqlynn De La Rosa. She said how happy she was to be able to help since she had completed the STARBASE Kelly program 10 years ago.

Sure enough, she had attended a STARBASE Kelly summer classes in July of 2002. Service members like Jaqlynn are a great role model for our STARBASE students.

SEEKING STARBASE ALUMNI

To commemorate the 20th anniversary of the DoD STARBASE Program, we are looking for STARBASE graduates who have gone on to STEM careers, hopefully in part from the influence of their STARBASE experience. We are happy to showcase any STARBASE alumni, but we are especially interested in finding graduates from the original 1993/94 classes. Please send any information about a STARBASE alumnus to Ernie Gonzales, at ernie.gonzales@osd.mil.