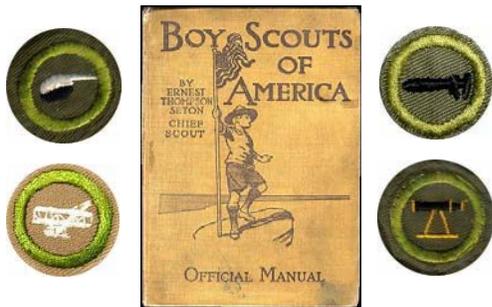


BSA's STEM Initiative – Fast Start Orientation

Introduction to BSA's STEM Initiative

In summer of 2012, BSA rolled out a new and exciting program of awards for Cub Scouts, Boy Scouts, and Venturers. This program, BSA's STEM Initiative, focuses on Science, Technology, Engineering, and Mathematics. This orientation handout describes the broad strokes of the program. It's long on the big picture, short on the details.

To begin, most folks ask, "Why STEM?" These fields of study might not seem to fit with our traditional image of Scouting activities, but many of the earliest merit badges were in STEM fields. Chemistry, aviation, machinery, and surveying are just a few of the original fifty-seven merit badges that were STEM-related. So, the study of STEM fields is not really new to Scouting. Through the STEM Initiative, BSA hopes to spotlight its historical connection to these fields and bring a new set of fun activities to its youth programs.



Purpose & Overall Structure

The purpose of the BSA STEM Initiative is to provide opportunities for youth at all levels of Scouting to develop an enhanced interest in STEM fields and to earn recognition for STEM achievement. By bringing a Scouting focus to STEM activities, BSA hopes to increase the value of Scouting to families and communities as it supports the development of STEM knowledge and skills. Ultimately, the goal is to make it "cool" and rewarding for *any* of our youth members to engage in STEM activities.

This goal was the driving force behind the structure of the program. The program is structured to have something in it for *every* kid, not just the geeks. Within each of the three traditional Scouting programs, there are two tiers of awards. The Nova is an entry level award that involves fun STEM activities. The Supernova is a higher level award that involves significant independent effort and STEM achievement.

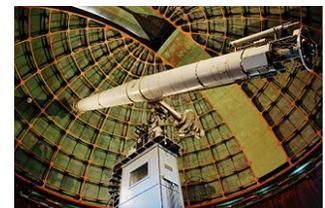
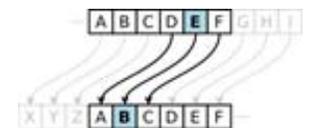


Tier 1 – The Nova Awards

In each program, there are 4 parallel Nova awards, one for each STEM area, all of which can be earned by any youth. These awards are designed to be fun and build on existing STEM-related elements of BSA's traditional programs. They are recognized by a patch (for the first award earned) and a π pin (for each subsequent award earned).

Cub Scouts	Boy Scouts	Venturers
S: Science Everywhere	S: Shoot!	S: Launch!
T: Tech Talk	T: Start Your Engines	T: Power Up
E: Swing!	E: Whoosh!	E: Hang On!
M: 1-2-3 Go!	M: Designed to Crunch	M: Numbers Don't Lie
(More in development)	(More in development)	(More in development)
<i>Each includes a STEM Belt Loop or Pin</i>	<i>Each includes a STEM Merit Badge</i>	<i>Each includes a STEM Exploration</i>

Here are some sample activities in the Nova awards across different programs. Youth begin with STEM-related entertainment, such as media productions, live performances, and/or popular magazines or books. They follow this by earning STEM-related belt loops and pins, activity badges, or merit badges. Finally, they take part in hands-on activities, like building a model car or working with secret codes, and go on field trips, such as to an aquarium or an observatory.



Tier 2 – The Supernova Awards

These awards are for highly dedicated youth. They involve challenging activities with significant independent effort. Each program has a different number of these awards available. For Boy Scouts and Venturers, the Supernova awards are structured in progressive levels. They are recognized by a medal on a neck ribbon.

Bear/Wolf Cub Scout

Dr. Luis W. Alvarez

Webelos Scout

Dr. Charles Townes

Boy Scout

Dr. Bernard Harris

Thomas Alva Edison

Venturer

Dr. Sally Ride

Wright Brothers

Dr. Albert Einstein

The Supernova award activities also build on STEM-related belt loops, pins, and badges. These awards include extensive independent work, such as library research, science fairs or other STEM competitions, shadowing STEM professionals, and conducting hands-on experimental activities. For example, the Diet Coke and Mentos explosion you see here can be carried out, studied, and reported on to meet a requirement for a Boy Scout or Venturer Supernova award.



Counselor & Mentor Qualifications

All youth are supported in their pursuit of these awards with adult guidance. Those who guide the Nova awards are called Nova Counselors and they provide age-appropriate help to those youth pursuing a Nova award. Those who guide the Supernova awards are called Supernova Mentors, to reflect that their role will be much longer and require greater depth of knowledge in a STEM field.

Nova Counselors only need familiarity and comfort with STEM fields such as from their high school education. Supernova Mentors need to have experience in at least one STEM field, through education, career, hobby, or other life experiences. Both positions involve a no-fee registration and completion of Youth Protection Training.

Adult Leader Support

There are web and print resources to support adult leaders in providing STEM programming to their units. The national website and the print Nova Guidebooks contain the full text of all award requirements. The resource website is unofficial, local to Silicon Valley Monterey Bay Council, and very minimalist (as it just launched in January 2013), but it will grow over time to include many youth STEM activities, information on local STEM destinations, and links to additional resources.



National STEM website: www.scouting.org/stem
SVMB Council STEM website: www.svmbc.org/stem
STEM Resources (unofficial): www.bsastemresources.com

Local STEM Resources

The Silicon Valley Monterey Bay Council STEM Committee is developing local resources to help its adult leaders learn about and implement this new program. Some of these resources are more fully developed than others. Ultimately, the full complement of support resources will include

- Lists of local STEM destinations
- Award checklists/workbooks
- Counselor and mentor rosters
- STEM consultants rosters
- Orientations and trainings
- STEM events for youth

See the two local websites above for more information and the latest developments.