

# STEM Nova Fast Start Guide

## What is the STEM Nova Program?

In summer of 2012, BSA rolled out a new and exciting program of awards that focus on **S**cience, **T**echnology, **E**ngineering, and **M**athematics. Through these awards, BSA hopes to spotlight its historical connection to these fields and bring a new set of fun activities to its youth programs.

The purpose of these awards is to stimulate interest in STEM-related fields and show how science, technology, engineering and mathematics apply to everyday living and the world around them.

*Why STEM in Scouting? Isn't Scouting about the outdoors?*



Among the original 57 merit badges introduced in 1911 there were many that today we would include as STEM merit badges.

These included Architecture, Astronomy, Aviation, Chemistry, Electricity, Machinery, and Surveying.

From Aeronautics to Zoology, hundreds of merit badges over the last century have been STEM-related.

Scouting has created interest in STEM careers and has prepared Scouts to go on to greater things in life. Thousands have gone on to excel in STEM fields.

## Why STEM NOVA?

*STEM is the future*

STEM education is an economic imperative. Experts say that technological innovation accounted for almost half of U.S. economic growth over the past 50 years, and almost all of the 30 fastest-growing occupations in the next decade will require at least some background in STEM. STEM literacy is also critical because it has a profound and growing impact on our day-to-day lives. The National Science Foundation estimates that “80% of the jobs created in the next decade will require some form of math and science skills.”

*Prepared. For Life.™*

The program seeks to increase STEM awareness in youth to offer them opportunities to opportunities to “Be Prepared for Life.”

Also, this effort will increase the awareness in the community and among parents that the Boy Scouts of America is, and always has been, concerned about these issues – and is, and always has been, making a difference in lives.

## How?

Leveraging the methods of scouting, Association with Quality Adults, Advancement, and Personal Growth. BSA has created a program to bring a scouting focus to STEM activities.

There are STEM awards available in each of the three traditional Scouting programs. These are optional awards. Within each program there are two tiers of awards.

### Tier 1: The Nova Awards

In each program, there are Nova awards for each STEM area. These awards build on existing adventures and Merit Badges and are designed to be fun and build on existing STEM-related elements of BSA’s traditional programs. They are recognized by the distinctive Nova award patch (for the first award earned) and a  $\pi$  pin (for each subsequent award earned).



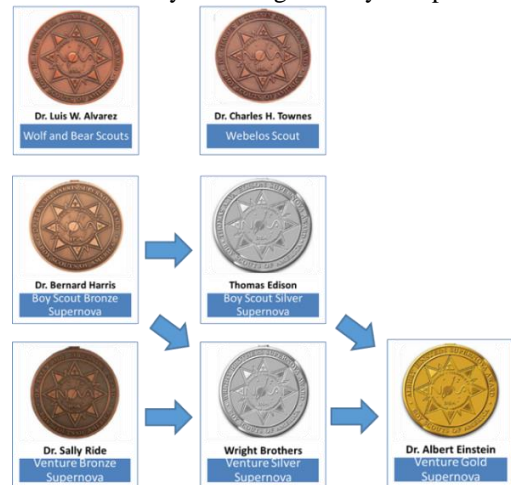
While earning each Nova award, the scout will journey through 5 phases;

- Familiarization (STEM Entertainment)
- Exploration and application (STEM Merit Badges/Adventures)
- Activities (STEM activities)
- Visits (STEM Exploration)
- Communication (STEM Discussions)

Cub Scouts	Boy Scouts	Venture Scouts
<b>S:</b> Science Everywhere Down and Dirty Nova WILD! Out of This World <b>T:</b> Tech Talk <b>E:</b> Swing! <b>M:</b> 1-2-3 Go!	<b>S:</b> Shoot! <b>T:</b> Start Your Engines <b>E:</b> Whoosh! <b>M:</b> Designed to Crunch (More in development)	<b>S:</b> Launch! <b>T:</b> Power Up <b>E:</b> Hang On! <b>M:</b> Numbers Don't Lie (More in development)
<i>Each includes a STEM Adventure</i>	<i>Each includes a STEM Merit Badge</i>	<i>Each includes a STEM Exploration</i>

### Tier 2: The Supernova Awards

These awards are for highly dedicated youth and require working with an adult mentor (position code 52) who are qualified STEM practitioners. They involve challenging activities with significant independent effort. For Boy Scouts and Venture Scouts, the Supernova awards are structured in progressive levels. They are recognized by a Supernova medal.



# STEM Nova Fast Start Guide

## How do I Start?

- Familiarize yourself with the program.
- Form a STEM Nova team in your unit.
- Contact your District STEM Nova Representative
- Get your team members registered as counselors and mentors.
- Decide on unit-wide plans or individualized plans to help boys meet the requirements
- Based on plans, formulate a roadmap for meeting all the requirements.
- Determine what local and online resources you can utilize
- Make STEM trips and events happen.
- Check out summer camp program offerings.
- Have Fun!

## How to Become a Nova Counselor?

### Things to Think About

What level(s) would you like to counsel?

- Cub Scouts    Boy Scouts    Venture Scouts

Do you want to work with your Unit, District, or Council?

### Qualifications Checklist

- Be at least 21 years old
- Be of good character
- Be able and willing to work with Scout age youth
- Be comfortable with math and science
- Be willing to research STEM topics unfamiliar to you
- Provide current certification in Youth Protection Training
- Complete BSA adult registration form (no charge, position code 58)
- Submit Nova Counselor Information Page to council
- Be approved by council
- Complete Nova Counselor Training (highly recommended – Pow Wow, University of Scouting, NOVA Counselor Self Study Guide at Scouting.org)

Turn these in to your District Rep or Council!

## What are some Resources?

There are web and print resources to support adult leaders in providing STEM programming to their units. The national website and the Nova Guidebooks contain the full text of all award requirements as well as tips for counselors and mentors.

- BSA Material
  - STEM NOVA Handbooks
  - [www.scouting.org/stem](http://www.scouting.org/stem)
  - [www.shac.org/stem](http://www.shac.org/stem)
  - NOVA Counselors Guide
  - STEM Mentors Guide
- Council Programs
  - Sea Base Galveston (Bay Area)
  - Bovay STEM NOVA Weekends (SHAC) - Coming Soon!
- Local Area Partners
  - Houston Museums
    - HMNS STEM Day (Sept 26th)
    - Adventure Loop Classes
    - Merit Badge Classes
  - NASA
  - Houston Zoo
  - Robotics Clubs
  - State Parks / Nature Centers
  - Others



## Safety and Risk Mitigation

- Start with BSA's Guide to Safe Scouting.
- Follow BSA's Youth Protection Training Policies.
- Ensure internet safety. (If doing online research, scouts should have earned their Cyberchip.)
- Use safety gear and practices. (Get training, if needed!)
- Bring in a safety consultant, if necessary.
- Respect academic differences. (Offer activity options.)
- Don't be afraid to just say STOP! or ask for help.

## How to Become a Nova Mentor?

### Things to Think About

What level(s) would you like to Mentor?

- Cub Scouts    Boy Scouts    Venture Scouts

Do you want to work with your Unit, District, or Council?

### Qualifications Checklist

- Be at least 21 years old
- Be of good character
- Be able and willing to work with Scout age youth
- Be knowledgeable in some STEM field(s) by vocation, hobby, or education
- Provide current certification in Youth Protection Training
- Complete BSA adult registration form (no charge, position code 52)
- Submit Supernova Mentor Information Page to council
- Be approved by council
- Complete Supernova Mentor Training (highly recommended –University of Scouting, Supernova Mentor Training Guide at Scouting.org)

Turn these in to your District Rep or Council!

## Resources

National STEM website: [www.scouting.org/stem](http://www.scouting.org/stem)  
SHAC STEM website: [www.shac.org/stem](http://www.shac.org/stem)  
SHAC STEM eMail: [576Stem.Nova@scouting.org](mailto:576Stem.Nova@scouting.org)

\*Guide adapted from Silicon Valley Monterey Bay Council



BOY SCOUTS OF AMERICA  
SAM HOUSTON AREA COUNCIL

