

How Does My Unit Get Started on the STEM Awards?

Start with the Guidebooks



The Nova Awards Guidebooks are available in our council Scout Shops and on ScoutStuff.org.

Find out more about the program by reading the following short documents, available at bsastemresources.com, SVMBC's local, unofficial site. Look under Leader Support ⇒ Training.

- Fast Start STEM Orientation
- Becoming a Nova Counselor – The Basics
- Becoming a Supernova Mentor – The Basics

Look for Nova Counselor Trainings and Supernova Mentor Trainings, held periodically throughout SVMBC, and advertised in the Scouter Weekly and at svmbc.org/stem.

Visit a Great STEM Destination

Generate excitement and momentum in your unit by visiting a great STEM destination. With strategic planning, this visit could knock off one or more Nova award requirements. Here are some great options.

Math/Science Nucleus (Fremont) operates Children's Natural History Museum, Tule Ponds and Tyson Lagoon, and Fremont Earthquake Exhibit. Offers a LARGE slate of Cub Scout, Webelos, and Boy Scout STEM badges (See msnucleus.org)

USS Hornet Museum (Alameda) offers overnight programs where Boy Scouts can earn the Aviation, Radio, or Space Exploration merit badges. (See uss-hornet.org)

Chabot Space & Science Center (Oakland) has a planetarium, observatory, and theater shows. Cub Scouts can earn the Astronomy belt loop or pin, Boy Scouts can earn the Astronomy merit badge. (See chabotspace.org)

The Tech Museum of Innovation (San Jose) offers interactive exhibits, educational IMAX films, monthly Young Maker workshops and more. (See thetech.org)

The Monterey Bay Aquarium (Monterey Bay) offers Underwater Explorers, behind the scenes tours, aquarium sleepovers and more. (See montereybayaquarium.org)

Find more STEM destinations at bsastemresources.com.

Develop Nova Award Roadmaps

A Nova Award *roadmap* is simply a specific plan that you make collaboratively with your youth or unit for meeting each requirement of that Nova award. Each Nova award can have many different roadmaps. Here are three samples. (Look in the appropriate guidebook or on scouting.org/stem for the full text of the requirements.)

Sample Roadmap for Cub Scout Nova *I-2-3 Go!*

This roadmap is suitable for a *very* young Cub Scout.

1. Read *The Magic School Bus: Lost in the Solar System* and watch the episode of *Cyberchase* (a PBS series) titled *Codename Icky* (season 1, episode 7).
2. Mathematics Pin
3. Option A: Weight on Other Planets and Option C: Volume of Air in Your Bedroom
4. Secret Codes
5. Mathematics in everyday life

Sample Roadmap for Boy Scout Nova *Shoot!*

This roadmap is ideal for the kid who's always flicking peas with his spoon at summer camp. Almost every choice here is about catapults.

1. Watch the episode of *NOVA* (a PBS series) titled *Medieval Siege*, and read about catapults in the book *The Art of the Catapult* and at www.catapults.org.
2. Aviation MB program at the USS Hornet
3. Option A: projectile simulation applet
4. Option A: visit the USS Hornet (see the catapult launchers!)
5. Option A: design and build a catapult
6. Science in everyday life

Sample Roadmap for Venturer Nova *Hang On!*

This roadmap is ideal for a high-adventure, thrill-seeking Venturer who loves amusement parks. All of the choices and options here focus on supporting requirement 5.

1. Watch the IMAX movie *Thrill Ride: The Science of Fun* at the Tech Museum in San Jose. Read the book *Amusement Park Physics* by Clarence Bakken and peruse the website *Amusement Park Physics* at learner.org/interactives/parkphysics/ to try out designing a virtual roller coaster.
2. *Model Design and Building* STEM Exploration
3. Explore simple machines
4. Option A: visit California's Great America
5. Option to design an amusement park ride
6. Engineering in everyday life

All of these sample roadmaps follow the strategy of making choices across the requirements that support one another. There is certainly no obligation to do this, and indeed, not every Nova award allows for this. In addition, some youth are better served by hopscotching around to different topics. You might need to develop multiple roadmaps of the same Nova award to accommodate different interests, abilities, and backgrounds of the youth in your unit.

Fun-gineer Great STEM Activities

Always remember and use the shameless tactics of a dedicated fun-gineer.

Adopt a partner-in-crime. Two heads are always better than one, and it's just more fun when you're working with someone else.

Sleuth out great resources. Visit the children's section of your local public library and look for books with science projects. It's a real treasure trove and well worth the time.

The Internet has great resources. Here are four great sites.

- **RAFT** (Resource Area for Teaching) has lots of great science and math activities to download for free. See raft.net.
- **eGFI** (Engineering - Go For It!) offers a whole array of web and print resources related to engineering activities. See egfi-k12.org
- **Science Buddies** is all about science fair projects for all grade levels. See sciencebuddies.org.
- **The Exploratorium** has lots of great hands-on activities to do online or download for free. See Exploratorium.com ⇒ Education ⇒ Hands-On Activities.

Try and revise before showtime. This is really the key to having a successful STEM activity. Very often, when you initially put together a STEM activity, there are technical problems with the materials, equipment, or process that only become obvious when you do a run-through of the activity. Be prepared. Do an initial run-through early enough that you can acquire new/additional materials if necessary before the day of your STEM activity.

Look Towards the Supernova Awards

Keep the Supernova awards in sight for your youth.

Nova Awards as Stepping Stones

Although not all youth will want to pursue a higher STEM award, more will consider it after you point out that by completing a Nova award, they are either preparing themselves (Cub Scouts) or already making progress (Boy Scouts and Venturers) towards earning a Supernova award.

Nova Activity or Supernova Activity?

As you go about finding resources for Nova activities, make note of resources that might be suitable for a Supernova activity. Sometimes, a great activity doesn't quite fit any of the Nova requirements, but would meet a Supernova requirement.

Supernova Unit Activities

Be bold about drawing in all the youth for a Supernova activity. In particular, for Boy Scouts and Venturers, many of the Supernova Activity Topics have an activity portion that is best done with a group of youth. At the end, you can tell them they've just finished (or almost finished) a Supernova award requirement, and how great is that?!?!

Manage the Forces of GLOPP (Great Lovers Of Pushing Paper)

BSA Adult Application

You still have to do one for each new position, even if you are already a registered leader. Yes, it stinks. Hold your nose and power through it as fast as possible.

Nova Counselor, Supernova Mentor Information Forms

See bsastemresources.com/training.html.

Award Worksheets

See bsastemresources.com/award-worksheets.html.

Nova Award Completions

Record these on your unit advancement form.

Supernova Award Application

scouting.org/filestore/STEM/pdf/SupernovaApplication.pdf

Nova Counselor Roster and Supernova Mentor Roster

Coming soon. Check svmbc.org/stem periodically for the announcement of their availability.

Capitalize on Ideas from Other Units

From Lora Perez, Troop 799, Quicksilver District:

Pick a STEM award that ties to a merit badge that the scouts may be doing at summer camp. For example, we promoted the Rifle and Shotgun MBs as STEM-related, and told the boys we would be following up with the Nova Award *Shoot!* in the fall.

More to come in this section...

Find more ideas from other units at bsastemresources.com

Recruit a Unit STEM Coordinator

It's very helpful to have one adult leader designated as your unit's STEM Coordinator. This individual can be the contact person for all things STEM-related, including promoting the program, finding resources, arranging field trips, helping to create fun STEM activities, working with the advancement chair, and relaying information about STEM from the district and council to the unit leaders.

Keep Up on STEM News and Notifications

Join the Yahoo Group *BSA STEM – Greater Bay Area* by sending email to bsastemgba-subscribe@yahoogroups.com.