



PPC STEM Roadmap

Objective: Provide a robust STEM program consisting of BSA's Nova and Supernova awards, awesome activities, growth opportunities, and a view to STEM careers for Patriots' Path Council's Scouting youth.

Strategies to Achieve the Objective:

1. Build a strong, active, and innovative council STEM committee.
2. Build working partnerships with other council committees, districts, and individual PPC volunteers to strengthen STEM in PPC.
3. Build partnerships with outside organizations that can provide STEM opportunities and resources to PPC.
4. Provide tools for others to infuse STEM into events and programs.
5. Establish metrics to monitor effectiveness of program delivery.

Specific Goals:

1. Implement the Nova awards programs within units.
2. Implement the SuperNova awards programs at the council level.
3. Build an active STEM Partnering program with corporations, businesses, civic organizations, NGOs, government, academic and others to reach a young audience in a structured environment.
4. Infuse STEM into ongoing district/council events and programs.
5. Develop new district/council events and programs that emphasize STEM.
6. Provide tools for units to infuse STEM into their events and programs.
7. Recognize individual, unit, district, and council STEM accomplishments





PPC's STEM Mission

PPC will provide a robust STEM program consisting of BSA's Nova and Supernova awards, engaging activities, growth opportunities, and a perspective on STEM careers for our Scouting youth. PPC's STEM program complements advancement such as belt loops and merit badges. STEM directly blends into many of our summer camp activities. STEM opens a range of exciting opportunities that can improve program, donor opportunities, youth satisfaction, and ultimately lead them to become better citizens in our increasingly STEM-filled world.

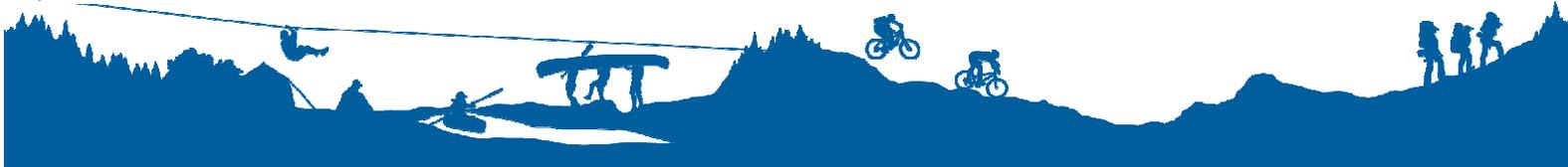
Background

The Boy Scouts of America (BSA) is one of the largest youth organizations in America, with 2.7 million youth members and over 1 million adult volunteers. Local councils deliver the program. Patriots' Path Council (PPC) encompasses Sussex, Morris, Somerset, Union and parts of Middlesex Counties and has 14,000 registered youth, 5,000 volunteers and a dedicated professional staff. PPC has begun local implementation of BSA's STEM program. "STEM" is a rather universal acronym for Science, Technology, Engineering and Mathematics. Across America various STEM initiatives focus on enhancing STEM education and improving our youth's competitiveness in areas that are projected to have both employment and interesting challenges that benefit the nation.

STEM is part of an initiative the Boy Scouts of America has taken on to encourage the natural curiosity of youth members and their sense of wonder about these fields through existing programs. From archery to welding, Scouts can't help but enjoy the wide range of STEM-related activities. STEM has been a part of the BSA program since the beginning. For example, 29 Cub belt loops/pins, 10 Webelos activity badges and 56 Scout merit badges are in the STEM Nova and Supernova requirements. Many camp activities have a STEM focus. BSA's STEM presence is already well-rooted and this initiative strives to take STEM to the next level.

To support this initiative, the BSA developed the Nova Awards program so that youth members have fun and receive recognition for their efforts. Further information is at <http://www.scouting.org/stem> and in the Cub, Scout, and Venturing guidebooks, available at the PPC Scout Shop.

PPC is incorporating STEM into all levels of program: pack meetings, camporees, summer camp, Venturing crew themes, special events and more. STEM does not replace traditional programs or advancement, but adds another dimension to Scouting with an eye toward preparing our youth for a life immersed in STEM phenomena. BSA's STEM complements the STEM education that Scouts get in school and other venues.

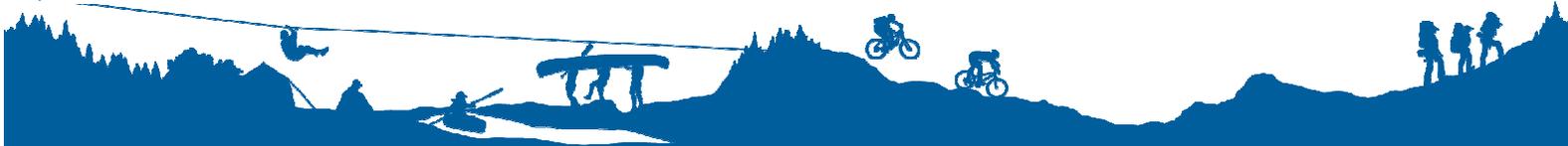




STEM implementation has several components: staff and volunteer expertise and commitment, training, program, and marketing. The key to success is attracting the right people through our internal and external partnerships.

Partners need the following attributes:

- STEM Expertise and/or interest
- Resources (people, time and/or money)
- Commitment
- Follow-through





Strategies to Achieve the Objective:

1. Build a strong, active, and innovative council STEM committee.
 - a. Build committee membership
 - i. Develop an “ask.”
 - ii. Promote at various venues
 - iii. Current STEM committee members actively recruit
 - iv. Target our membership recruitment toward diversity of experience, technical background, age, gender, Cub/Scout/Venturing involvement, districts, and employer relationships.
 - v. Recruit other committees to aid in recruiting.
 - vi. PPC staff aid in recruiting, notably staff advisor.
 - b. Organize into subcommittees
 - c. Build committee infrastructure
 - i. Regular meeting calendar
 - ii. Website
 - iii. Budget
 - d. Develop a process for STEM to become a PPC revenue stream
 - i. Possible direct grant or other funding opportunities
 - ii. Possible grant-writing opportunities
 - e. Develop a STEM Training program
 - i. Council Level
 1. STEM Mentors
 - ii. Unit level adults
 1. “Unit STEM Counselor” at University of Scouting 2014.
 - iii. Camp Counselors
 - iv. Other
2. Build partnerships with other council committees, districts, and individual PPC volunteers to strengthen STEM in PPC.
 - a. Prioritize the council committees we interact with. Candidate committees:
 - i. Advancement
 1. Work to increase the number of STEM Belt Loops/Pins offered at Belt-Loop Bonanza events.
 2. Work to increase the number of MB counselors in the STEM MBs
 3. Work to increase the number of STEM MBs taught at MB fairs
 4. Recruit the best STEM MB counselors as STEM Mentors
 - ii. Aquatics
 - iii. Camping
 - iv. Community Service
 - v. Conservation
 - vi. COPE & Climbing
 - vii. Finance



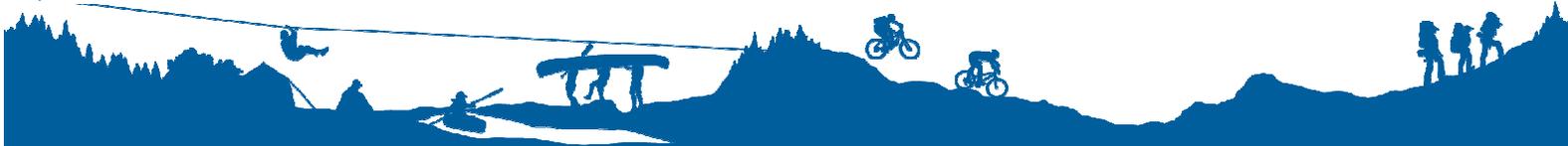


- viii. High Adventure
 - ix. Membership
 - x. Risk Management
 - xi. Shooting Sports
 - xii. Training
 - xiii. YEC
 - b. District Committees
 - i. Membership
 - ii. Program
 - iii. Rev. Dev.
 - c. Engage PPC Staff on STEM
 - i. General awareness of the Nova and Supernova programs
 - ii. General awareness of STEM opportunities
 - iii. Specific briefings for DEs and others with opportunities to build STEM in their areas of responsibility.
 - d. Identify other Internal Partners
 - i. "STEM" experts / users among our 5,000 volunteers
 - ii. Commissioners
 - iii. Flintlocks
 - iv. MB counselors
 - v. OA
 - vi. Supernova mentors
 - vii. Venturing crews
3. Build partnerships with outside organizations that can provide STEM opportunities and resources to PPC
- a. Identify candidate external partners
 - i. Prioritize based on
 - 1. Program impact
 - 2. Connections
 - 3. Possible direct grant or other funding opportunities
 - 4. Possible grant-writing opportunities
 - b. Institute and mature a partnering process
 - i. Identify win-win situations for both partners
 - ii. Develop a process to build from an initial contact to an event to a trusted-partner relationship.
4. Provide tools for others to infuse STEM into events and programs.
- a. Identify a list of written materials (handouts, presentations, etc.) that are needed
 - b. Identify kits, equipment, presentation graphics, etc. that are needed by STEM programs
 - c. Prioritize
 - d. Develop a budget
 - e. Assign people to prepare and maintain





5. Establish metrics to monitor effectiveness of program delivery.
 - a. Metrics for “Build a strong, active, and innovative Council STEM Committee”
 - i. Number of members
 - ii. Diversity, including skills, interests, district, age, gender
 - iii. Revenue positive program
 - iv. Set an annual growth plan
 - b. Metrics for “Build partnerships with other council committees, districts, and individual PPC volunteers to strengthen STEM in PPC”
 - i. Prioritize committees to partner with
 - ii. Set calendar for initial and follow-up meetings
 - iii. Set an annual growth plan
 - c. Metrics for “Build partnerships with outside organizations that can provide STEM opportunities and resources to PPC”
 - i. Number of partners
 - ii. Number of partner events
 - iii. Revenue
 - iv. Attendance
 - v. STEM advancement through this venue (Nova, Supernova, belt loops, MBs)
 - vi. Set an annual growth plan
 - d. Metrics for “Provide tools for others to infuse STEM into events and programs.”
 - i. Which committees to partner with
 - ii. Set calendar for initial and follow-on meetings
 - iii. Set an annual growth plan
 - e. Metrics for “Implement the Nova awards programs within units”
 - i. Number of units participating, in conjunction with District Key 3s.
 1. Percentage of packs with a STEM Counselor
 2. Percentage of troops with a STEM Counselor
 3. Percentage of crews with a STEM Counselor
 - ii. Number of Nova awards by Cubs/Webelos/Scouts/Venturers (patches sold by Scout Shop).
 - iii. Set an annual growth plan
 - f. Metrics for “Implement the SuperNova awards programs at the Council level”
 - i. Number of mentors
 - ii. Number of Supernova awards by Cubs/Webelos/Scouts/Venturers.
 - iii. Set an annual growth plan
 - g. Metrics for “Build an active STEM Partnering program...”
 - i. Draft partnering process
 - ii. List of potential partners
 - iii. Number of events
 - iv. Revenue goal
 - h. Metrics for “Infuse STEM into District/Council Events and programs”
 - i. Number of events





- ii. Impact as measured by the number of units participating and the number of Nova awards
- iii. Increased advancement in the 29 Cub belt loops/pins, 10 Webelos activity badges and 56 Scout merit badges are in the STEM Nova and Supernova requirements
- iv. Set an annual growth plan
- i. Metrics for “Develop new District/Council Events and programs that emphasize STEM”
 - i. Number of events
 - ii. Set an annual growth plan
- j. Metrics for “Provide tools for Units to infuse STEM into their events and programs”
 - i. Number of district roundtables visited and “Welcome to the STEM/NOVA Program-- A Primer for Unit STEM Counselors” presented
 - ii. Number of other presentations of “Welcome to the STEM/NOVA Program-- A Primer for Unit STEM Counselors”
 - iii. Website update
 - iv. Set an annual growth plan
- k. Metrics for “Recognition of individual, unit, district, and council STEM accomplishments”
 - i. Date when we develop award system
 - ii. Initial set of awards at TSOS 2014
 - iii. Number of STEM Recognition events
 - iv. Number of attendees
 - v. Events break-even or make a profit.



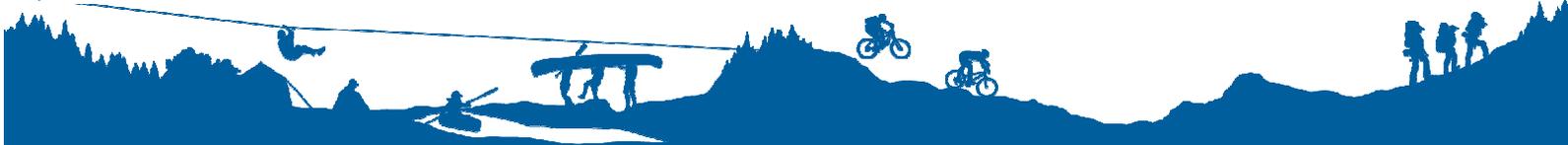


Tactics to meet our Specific Goals:

1. Implement the Nova awards programs within units
 - a. Assemble handouts, presentation materials
 - b. Introduce at district and unit level
 - c. Publicize
 - d. Encourage units to appoint a STEM Counselor
 - e. Develop a PPC recognition program
 - i. Units and districts that meet / exceed STEM objectives.
 - ii. A STEM patch to hand out at events.

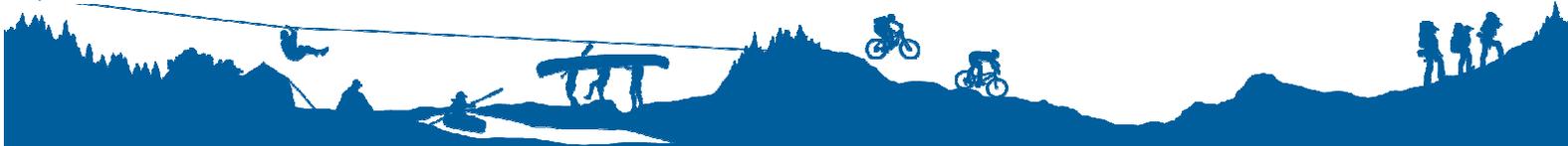
2. Implement the SuperNova awards programs at the Council level
 - a. Recruit Supernova Mentors
 - b. Publicize
 - i. University of Scouting
 - ii. Camporees, TSOS, and other events
 - c. Develop a PPC recognition program for Supernova recipients.
 - i. District annual meeting/recognition dinner?
 - ii. Other venues.

3. Build an active STEM partnering program with corporations, businesses, civic organizations, NGOs, government, academic and others to reach a young audience in a structured environment.
 - a. Identify candidate external partners
 - i. Corporations with STEM as a community outreach program
 - ii. Businesses that have STEM in their products or processes (an airport, a car dealership, a food service, engineering firms...)
 - iii. Companies that have a STEM emphasis (research labs, engineering firms, telecoms...)
 - iv. US Government
 - v. Associations that represent STEM organizations or professions
 - vi. Non-Governmental organizations (NGOs) that focus on STEM Museums
 - vii. Colleges and Universities
 - viii. Schools grades K-12
 - b. Institute and mature a partnering process
 - i. Initially, we are simply going to follow leads and ad-hoc ideas.
 - ii. As the process matures, we will consider outreach to targeted organizations, foundations, grant agencies, and celebrity talent.
 - iii. We need to articulate our strengths (available youth, pool of volunteers, camp properties, insurance, etc.) and learn about our potential partners' expertise.
 - iv. We need to acknowledge and accommodate some competing missions.
 1. For example, many academics and NGOs run a summer camp.
 2. Can we learn from each other?





3. Can we partner?
 - c. Finding Partners through PPC Connections.
 - i. Among the 5,000 volunteers and 50 professional staff, there are solid connections to STEM partners.
 - ii. We need to solicit input from the PPC community.
 1. Website
 2. Face-face
 3. Other
 - d. STEM Partnering Revenues
 - i. Corporate STEM grants (e.g., robots donated in 2013)
 1. What do we want? Why?
 2. How will we integrate the “stuff” into our STEM programs?
 3. Operations and Maintenance plan
 4. Need a council infrastructure
 - a. STEM staffer
 - b. STEM awareness of other staff
 - ii. Identify grant opportunities.
4. Infuse STEM into district /council events and programs
 - a. Partner with district and council advancement committees on STEM-related advancement (58 merit badges are designated as part of the Nova/Supernova awards for Scouts)
 - b. Rebrand some of the existing events to STEM
 - c. Special event patches built into budget
 - d. Work with camping committee to increase STEM in summer camps.
 - i. Build upon STEM Week at Wheeler 2013
 - e. Develop a PPC recognition program for STEM Events
 - i. STEM Participation Patches
 - f. Actively search for new ideas among PPC staff, volunteers, and youth.
 - g. Encourage districts to include STEM in camporees, pinewood derbies and other recurring events.
5. Establish new STEM activities within existing events or as stand-alone events
 - a. STEM explanations for activities/things/nature.
 - i. Example: “the STEM of the BB gun” as Cubs wait in line. Pack leaders are supplied a brief descriptor with some FAQs so they are the “instant expert” on the topic for their cubs.
 - b. Math-bee and other STEM “bees”.
 - c. STEM scavenger hunt
 - d. Working with Camp staffs, implement STEM quizzes for
 - i. Summer camp adult and youth contests
 1. Examples:
 2. Find one example of each simple machine in your campsite





- ii. [Lever](#)
 - iii. [Wheel and axle](#)
 - iv. [Pulley](#)
 - v. [Inclined plane](#) (Ramp)
 - vi. [Wedge](#) (Moving Ramp)
 - vii. [Screw](#)
 1. Identify species under a microscope.
 2. Develop awards for adults and youth who complete a set of STEM challenges during the week at camp.
 - viii. Camporees
 1. STEM trivia contest
 2. Raptor Trust
 3. Forestry
 - e. Revenue Development
 - i. Revenues from STEM events
 - ii. STEM-based fund raisers
 - iii. Other revenue sources?
6. Develop new district / council events and programs that emphasize STEM.
- a. Partner with appropriate committees.
 - b. Hold brainstorming events on different STEM themes and/or Scouting program levels for possible new events.
 - c. Special event patches built into budget.
7. Provide tools for units to infuse STEM into their events and programs
- a. Make documents and materials available for units to use
 - i. PowerPoint on “Welcome to the STEM/NOVA Program-- A Primer for Unit STEM Counselors”
 - ii. Prepare and issue a position description for a district STEM coordinator
 - iii. Post materials on the website and make it easy for units to access the needed materials from PPC and BSA.
 - b. Identify and publicize existing BSA and PPC program resources that further STEM.
 - i. Catalog of unit meetings in Troop/Pack Program Guides that are STEM.
 - ii. Identify and publicize STEM opportunities at camps
 - iii. Identify and publicize STEM opportunities from BSA and BSA-related websites.
8. Recognition of individual, unit, district, and council STEM accomplishments
- a. Start small and build over the years.
 - b. Build a system of annual award categories.
 - i. Implement any appropriate BSA STEM awards—existing or forthcoming
 - ii. Possible awards to
 1. S, T, E, M awards to PPC volunteers
 2. Units with most Nova awards





3. Unit award for hosting cool STEM events.
4. STEM volunteers analogous to Dist. Award of Merit
5. STEM District of the year. Criteria?
 - iii. External awards to "Good STEM Scouts" as part of a fund-raising effort.
- c. Initially, identify award categories and make the awards at appropriate venues including Council annual meeting, a district annual meeting, a troop CoH, a Pack B&G...
- d. Build recognition toward a PPC Annual STEM Dinner—stand-alone or in conjunction with other event?
 - i. Objectives
 1. Honor STEM accomplishments
 2. Recognize Contributors
 3. Publicize STEMM/PPC
 4. Raise Funds?
 5. Put a bow on our activities for the year and publicize the program
 6. Model on Good Scout dinner.
 - ii. Possible Dinner Agenda
 1. Keynote by STEM VIP such as Neil deGrasse Tyson, Alan Alda, or a NJ Nobelist
 2. Honor all Supernova awardees up front
 3. Acknowledge all Nova awardees by listing in journal
 4. Journal notations/display ads are free, but available only to those who gave a grant.... Denominations down to \$200 for a microscope or \$400 to send a Scout to STEM camp. Etc.
 5. Possible awards to
 - a. STEM volunteers analogous to District Award of Merit?
 - i. Individual awardees S, T, E, M --PPC volunteers
 - ii. Individual awardees from outside as "good Scouts" from our partners.
 - b. Units for most Nova awards
 - c. Units for hosting cool STEM events.
 - d. STEM District of the year.
 - iii. Possible Hands-on activities
 1. A STEM lab activity before-hand for participants such as
 - a. Microscopy
 - b. Pulleys
 - c. Robotics
 2. STEM activity at the dinner table such as
 - a. Trivia contest on Supernova award names
 - b. A STEM puzzle for the table
 3. Star gazing afterwards using the new telescope

