



Old Dominion District
Guide for a Venturer to Earn a STEM Supernova Award

BSA STEM Supernova Awards

BSA established the Supernova Awards program to go beyond the Nova Awards to further stimulate Venturer and Sea Scout interest in STEM-related fields, and show how science, technology, engineering and mathematics apply to everyday living and the world around them.

Assumptions

- A unit has an affiliated Supernova Mentor (registered with NCAC) who is current with YPT
- The District has an Advancement & Recognition Chair and a STEM Coordinator to provide assistance

Guide Posts

- The Supernova Awards recognize superior achievement by accomplishing experiments and other activities.
- The Supernova Awards include:

Program	Supernova Awards
Venturers http://www.scouting.org/stem/Awards/Venturer_Supernova_Awards.aspx	Dr Sally Ride Supernova Award
	Wright Brothers Supernova Award
	Dr Albert Einstein Supernova Award

- The Dr Sally Ride Supernova Award requires (see the BSA website noted above for complete requirements):

Requirement	Activity	Transaction
1	Complete three of the Venturing Nova Awards (any time after becoming a Venturer)	<ul style="list-style-type: none"> • Launch = Science • Power Up = Technology • Hang On! = Engineering • Numbers Don't Lie = Math
2a	Complete the Venturing Scholarship exploration	Show you have an average grade of B or higher or improved your grades from the previous period
2b	Review and recommend an ethical way forward to prevent plagiarism, resolve conflicting facts and manage research paper resources	Do two of the three listed topics
2c	Obtain endorsement that you demonstrated satisfactory abilities or progress in independently completing scholarly endeavors and proactively seeking help when needed.	Provide the note to your Supernova Mentor
2d	Participate in, or report on, successful teamwork strategies	Discuss with your Supernova Mentor
2e	Either write on, or conduct, an ethical controversy discussion	Discuss with your Supernova Mentor
3	Complete Venturing STEM explorations for four of the topics listed above	See the Venturing STEM exploration requirements shown below
4	Complete two Supernova activity topics in two different STEM areas	See the Supernova Activity list below
5	Participate in an additional science fair competition or equally challenging STEM oriented competition	Approved by Supernova Mentor
6	Either 'shadow' for a day a local scientist/engineer or learn about a STEM career	Report/present to your Supernova Mentor
7	Present a Nova or other STEM related program at a Cub Scout den or pack meeting	Gain approval from the unit and arrange meeting time/place
8	Compare and analyze how the scientific method, based on facts and rules, can be used by other professions	Present to your Supernova Mentor
9	Submit an application for the Sally Ride Supernova Award	Provide to the District STEM Coordinator, who will review and then forward to the NCAC STEM Committee



- The Wright Brothers Supernova Award requires *(see the BSA website noted above for complete requirements)*:

Requirement	Activity	Transaction
1	Earn either the Sally Ride Supernova Award or the Bernard Harris Supernova Award	There are two options to achieve the Wright Brothers Award – from being a Boy Scout or a Venturer
2	Complete one additional Venturer Nova Award (any time after becoming a Venturer) (list above)	Result is the Venturer has earned all four Boy Scout Nova Awards
3	Earn four additional Supernova Venturing STEM Explorations for a total of eight	Eight total earned
4	Complete two additional Supernova activity topics, one each in different STEM areas	See Supernova activity information below Total of four Supernova activities
5	Participate in an additional science fair competition or STEM oriented competition	Approved by Supernova Mentor Two science fairs or equivalent accomplished
6	Present an additional Nova or other STEM related program at a Cub Scout den or pack meeting	Gain approval from the unit and arrange meeting time/place; Two presentations accomplished
7	Research a STEM breakthrough or invention of the last 100 years and present a hypothesis on how this will affect society during your lifetime	Present either a 30 minute oral report or a 1,500 word written report to your Supernova Mentor
8	Submit an application for the Edison Supernova Award	Provide to the District STEM Coordinator, who will review and then forward to the NCAC STEM Committee

- The Dr Albert Einstein Supernova Award requires *(see the BSA website noted above for complete requirements)*:

Requirement	Activity	Transaction
1	Earn either the Edison Supernova Award or the Wright Brothers Supernova Award as a Venturer	See above and in the Boy Scout Supernova Procedures paper
2	Complete four additional Supernova activity topics, one each in different STEM areas	See Supernova activity information below Total of eight Supernova activities
3	Create and propose a new Nova awards topic for any program comparable to the existing Nova awards topics at that program level.	Prepare a written outline for this proposed Nova awards topic and submit it to your mentor.
4	Select an area of current STEM-related concern and develop a research project or experiment related to that area	Prepare a complete and well-documented written report AND an oral presentation. Present both to your mentor and your local council Nova committee.
8	Submit an application for the Edison Supernova Award	Provide to the District STEM Coordinator, who will review and then forward to the NCAC STEM Committee

Supernova Activity Topic Ideas

Science	New Things from Old
	Misconceptions, Misunderstandings and Mistakes
	Diet Coke and Mentos Explosion
Technology	Energy Technology
	Communications Technology
	Entertainment Technology
Engineering	Deconstruct & Analyze Mechanical Designs
	Build & Test High Performance Gliders
	Egg Drop Contest
Math	Modeling Bungee Jumping
	Predicting Old Faithful's Next Eruption
	Voting Methods and Fair Decisions



Venturing STEM Explorations

Action	Select a STEM Field of Interest	Archery Astronomy Athletics Aviation Rifle Shooting	Robotics Shotgun Shooting Space Exploration Weather
Safety Considerations	Understand the safety issues in this Field of Interest	Discuss with your Supernova Mentor	
Developing Knowledge	Visit a workplace or learn more about a field of interest	Discuss with your Supernova Mentor	
Hands-On Experiences	Identify and carry out four hands-on activities that are examples of work done in the field that you could carry out yourself	Consult with your Supernova Mentor	
Career Exploration	Find out about training, education and experience that are needed in a field of interest	Share with your Supernova Mentor	
Value & Impact	Research how important the selected field of interest is in addressing modern world problems and challenges	Create an oral or written report and present to your Supernova Mentor	

Success means

- The key to deliver a successful STEM Supernova program in a unit is to integrate STEM into the accomplishment of existing unit program activities.
- Success requires a concerted, focused effort by the Venturer, with the assistance and guidance of a Supernova Mentor, the unit STEM coordinator, the unit merit badge coordinator and the unit leader.

Process to Achieve Supernova Award

- Identify the registered Supernova mentor – to help guide the Scout thru the award process. If the unit does not have an affiliated Supernova Mentor, contact the District STEM Coordinator or Advancement & Recognition Committee Chair
- Determine if there are fellow Scouts who want to also earn the Supernova Award
- Determine if there are any activities that can be accomplished as part of the unit's program
- Develop a plan to accomplish the Supernova Award requirements.
- When complete, present the STEM Supernova Gold Card to your unit leader for review and signature.
- Complete the required Supernova Award application (to include the workbook) and forward to the District STEM Coordinator, who will in-turn present it to the NCAC STEM Committee Chair for review and approval.
- NCAC will finalize the approved award and forward the medal and certificate to the unit leader.
- The Scout is recognized at the next unit court of honor or similar event.

Resources

- The NCAC STEM Committee Web page at <http://www.ncacbsa.org/activitiesevents/stem/>. This page describes the NCAC STEM Program, how to register as a Supernova Mentor, training opportunities, and other events.
- The BSA STEM home page is at <http://www.scouting.org/stem.aspx>. Here you can find more information on what the BSA STEM program is all about – and the background on how to successfully achieve the Nova Awards.

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