



Dr. Charles H. Townes



Webelos Scout Supernova Award Workbook

This workbook can help you but you still need to read the Cub Scout Nova Awards Guidebook.

This Workbook can help you organize your thoughts as you prepare to meet with your mentor.

You still must satisfy your mentor that you can demonstrate each skill and have learned the information.

You should use the work space provided for each requirement to keep track of which requirements have been completed, and to make notes for discussing the item with your mentor, not for providing full and complete answers.

If a requirement says that you must take an action using words such as "discuss", "show", "tell", "explain", "demonstrate", "identify", etc, that is what you must do.

Mentors may not require the use of this or any similar workbooks.

No one may add or subtract from the official requirements found in the Cub Scout Nova Awards Guidebook (Pub. 34032 – SKU 614935).

The requirements were issued in 2015 • This workbook was updated in August 2018.

Scout's Name: _____ Unit: _____

Mentor's Name: _____ Mentor's Phone No.: _____

<http://www.USScouts.Org> • <http://www.MeritBadge.Org>

Please submit errors, omissions, comments or suggestions about this **workbook** to: Workbooks@USScouts.Org

Send comments or suggestions for changes to the **requirements** for the **Nova Award** to: Program.Content@Scouting.Org

Although it is not a requirement, it is recommended that you earn at least two of the seven Nova awards for Cub Scouts before earning the Dr. Charles H. Townes Supernova Award.

This Supernova award can be earned by Webelos Scouts like you.

1. Complete three of the following: Adventures in Science, Engineer, option A or option B.
- Adventures in Science
 - Engineer
 - Option A Do all of the following:
 - a. Construct one of the following from wood, and one from another material: Book rack, Shelf, Bulletin board, Tie rack, Letter holder, Notepad holder, Toolbox, Towel rack, Recipe holder, Lamp stand, Kitchen knife rack, Kitchen utensil rack, Napkin holder, Garden tool rack, Lid holder, Mailbox, Birdhouse, Desk nameplate, Letter, bill, and pencil holder, Bread box, Key rack, Measuring cup rack, Measuring spoon rack
 - b. Keep an "insect zoo" with insects that you have collected. You might have crickets, ants, or grasshoppers. Study them for a while then release them. Share your experience with your den or your Mentor.
 - c. With adult supervision, show how to check the oil level and tire pressure on a car.
 - Option B Do all of the following:
 - a. Take a field trip to a geological site, geological laboratory, or rock show. Discuss what you learned at an upcoming den meeting or with your mentor.
 - b. Construct a simple working electrical circuit using a flashlight battery, a switch, and a light.
 - c. Do five activities within your home or school that require the use of mathematics. Explain to your den or your Mentor how you use math every day.

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- 2. Complete three of the following: Build It, First Responder, Into the Wild, Into the Woods, option A or option B.
 - Build It
 - First Responder
 - , Into the Wild
 - Into the Woods
 - Option A Do two of the following:
 - a. Go on a geocaching adventure with your den or family. Show how you used a GPS unit or a smartphone with a GPS application to locate a geocache.
 - b. Describe both the benefits and the harm wildfires can cause in a forest ecosystem. Tell how you can prevent wildfire.
 - c. Set up an aquarium or terrarium. Keep it for at least a month.
 - Option B: Do both of the following:
 - a. With adult supervision, build and launch a model rocket. Describe how Newton's third law of motion explains how the rocket is propelled into the sky.
 - b. While on a campout or night hike, identify five constellations or satellites in the night sky.
- 3. Find interesting facts about Dr. Charles H. Townes using resources in your school or local library or on the Internet (with your parent's or guardian's permission and guidance).

Then discuss what you learn with your mentor, including answers to the following questions:

What very important award did Dr. Townes earn?

What was Dr. Townes' most famous invention?

4. Find out about five other famous scientists, technology innovators, engineers, or mathematicians approved by your mentor.

1.	
2.	
3.	
4.	
5.	

Discuss what you learned with your mentor.

- 5. Speak with your teacher(s) at school (or your parents if you are home-schooled) OR one of your Cub Scout leaders about your interest in earning the Webelos Scout Supernova award.

Person you spoke with:

Ask them why they think math and science are important in your education.

Discuss what you learn with your mentor.

- 6. Participate in a science project or experiment in your classroom or school.

Project you did:

Discuss this activity with your mentor.

- 8. Under the direct supervision of your mentor, do an experiment that shows how the scientific method (or scientific process) is used

Experiment Conducted:

Prepare a short report on the results of your experiment for your mentor.

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- 9. Participate in a Nova- or other STEM-related activity in your Webelos Scout den or pack meeting that is conducted by a Boy Scout or Venturer who is working on his or her Supernova award. If this is not possible, participate in another Nova- or STEM-related activity in your den or pack meeting.

Activity you participated in: : Date

- 10. Submit an [application for the Webelos Scout Supernova award](#) to the district STEM or advancement committee for approval.

When working on Nova and Supernova awards, Scouts and Scouters should be aware of some vital information in the current edition of the *Guide to Advancement* (BSA publication 33088). Important excerpts from that publication can be downloaded from <http://usscouts.org/advance/docs/GTA-Excerpts-nova.pdf>. You can download a complete copy of the *Guide to Advancement* from <http://www.scouting.org/filestore/pdf/33088.pdf>.