

# Pack 200

**Christ United Methodist Church**

## Cub Scout



**Nova**

**and**



**Super Nova**

**Awards**

**Wolves, Bears & Webelos  
Guide and Log Book**

Local STEM Programs are offered by:

**City of Plano, Environmental Education Center**  
4116 W. Plano Parkway, Plano, TX 75093

<http://livegreeninplano.obsres.com/Info.aspx?EventID=20>

**Sci-Tech Discover Center**

8004 N. Dallas Pkwy, Frisco, TX 75034

<http://www.mindstretchingfun.org/programs/scouting-programs.html>

Contact: Ashley Herrera at 972-546-3050

E-mail: [rsvp@scitechdiscovery.org](mailto:rsvp@scitechdiscovery.org)

**Perot Museum of Nature & Science**

2201 N. Field Street, Dallas, TX 75201

<http://www.perotmuseum.org/events-and-programs/index.html>

**Dallas Arboretum's Rory Meyers Children's Adventure Garden**

8525 Garland Road, Dallas, Texas 75218

<http://www.dallasarboretum.org/children/scouts>

**Dallas Zoo**

650 South R.L. Thornton Freeway (I-35E), Dallas, TX 75203.

<http://www.dallaszoo.com/education/camps-classes/scout-badge-programs/>

**Heard Natural Museum and Wildlife Sanctuary**

1 Nature Place, McKinney, Texas 75069

<http://www.heardmuseum.org/>

**Dogwood Canyon Audubon**

1206 W FM 1382 Cedar Hill, TX 75104

<http://dogwoodcanyon.audubon.org/>

UT Dallas, SMU, UNT, local Community Colleges and High Schools also offer STEM related programs.

Detailed workbook pages for each award are available at:

<http://www.usscouts.org/advance/nova/index.asp>

The Boy Scouts of America's NOVA Awards program incorporates learning with cool activities and exposure to science, technology, engineering and mathematics for Cub Scouts, Boy Scouts, and Venturers. Our hope is that the requirements and activities for earning these awards stimulates interest in STEM-related fields and shows how science, technology, engineering and mathematics apply to everyday living and the world around them.

### Eligible Cub Scouts: Wolf, Bear, and Webelos

There are four **Nova Awards** for Cub Scouts, Webelos Scouts, Boy Scouts, and Venturers. Each award covers one component of STEM—science, technology, engineering, or mathematics.

Cub Scout Nova awards: Science Everywhere, Tech Talk, Swing!, and 1-2-3 Go!

Boy Scout Nova awards: Shoot!, Start Your Engines, Whoosh!, and Designed to Crunch

Venturer Scout Nova awards: Launch!, Power Up, Hang On!, and Numbers Don't Lie

For their first Nova award, Scouts earn the distinctive Nova award patch. After that, a Scout can earn three more Nova awards, each one recognized with a separate pi ( $\pi$ ) pin-on device that attaches to the patch. The patch and the three devices represent each of the four STEM topics—science, technology, engineering, and mathematics.

The **Supernova Awards** have more rigorous requirements than the Nova awards. The requirements and activities were designed to motivate youth and recognize more in-depth, advanced achievement in STEM-related activities.

Wolf and Bear Cub Scouts	Dr. Louis Alvarez Supernova Award
Webelos Scouts	Dr. Charles H. Townes Supernova Award
Boy Scouts	Dr. Bernard Harris Supernova Bronze Award Thomas Edison Supernova Silver Award
Venturers	Dr. Sally Ride Supernova Bronze Award Wright Brothers Supernova Silver Award Dr. Albert Einstein Supernova Gold Award

### Adult Roles: Nova Counselor and Supernova Mentor

Nova Awards are completed along the same lines as an activity or merit badge. The word “counselor” is used for the adult working with the Nova candidates. Parents and Den Leaders may serve as Nova counselors.

The Supernova program is more complex. Therefore, Supernova mentors must register as adult Scouters and be approved by the council advancement committee for each Supernova listed on their form.

Pack 200 Supernova Mentors: Paul Kuykendall & Kale Sears

District Supernova Mentor: Jerilynn Putnam - [jciputnam@yahoo.com](mailto:jciputnam@yahoo.com)

### Pack 200 Nova & Supernova Program

Pack 200 is setting the stage for a lifetime of interest and curiosity about *Science, Technology, Engineering, and Mathematics*.

Wolves, Bears and Webelos are invited to join us on this exciting adventure:

- The awards are optional and meant to be earned only after a Cub Scout has achieved his rank.
- Nova Awards may be completed at home or with your Den.
- Supernova Awards must be completed under the direction of the Pack 200 Mentor.
- *NOVA Nights*, STEM workshops, and field-trips will be offered to assist the boys interested in earning these awards.

**WOLVES:** It is highly recommended that your Cub Scout earn at least two of the four Nova awards before earning the Dr. Louis Alvarez Supernova Award. Nova activities are designed to be fun and used as an introduction to STEM-related fields. The Supernova activities will require more effort, perseverance, and critical thinking. With our boys' developmental readiness in mind, we encourage Pack 200 Dens and Families to work on the Nova Awards during their son's Wolf year. And then, once a Bear, he can earn the Dr. Louis Alvarez Supernova Award. He can earn the Dr. Charles H. Townes Supernova Award when he is a Webelos.

**BEARS:** It is highly recommended that your Cub Scout earn at least two of the four Nova awards before earning the Dr. Louis Alvarez Supernova Award. The requirements for the Dr. Louis Alvarez Supernova Award must be completed prior to Blue & Gold.

**WEBELOS:** It is highly recommended that your Webelos Scout earn at least two of the four Nova awards before earning the Dr. Charles H. Townes Supernova Award. If your son is in Webelos I and he has not had the opportunity to earn any of the Nova Awards, then consider having him earn two of the four Nova awards prior to earning the Dr. Charles H. Townes Supernova Award. Webelos II must complete the Dr. Charles H. Townes Supernova Award prior to the Blue & Gold.

**Are you a Wolf, Bear, or Webelos?**

**Are you interested earning your Supernova Award?**

**Jerilynn Putnam, District Supernova Mentor**

[jciputnam@yahoo.com](mailto:jciputnam@yahoo.com)

**PARENTS: Your help and assistance is needed  
to make this program successful!**

## Science Everywhere

This module is designed to help you explore how science affects your life each day.

**PACK 200: Circle your choices and fill in your *Science Everywhere Log*.**

- Choose A or B or C and complete ALL the requirements.
  - Watch an episode or episodes (about one hour total) of a show about anything related to science. Then do the following:
    - Make a list of at least two questions or ideas from what you watched.
    - Discuss two of the questions or ideas with your counselor.
  - Read (about one hour total) about anything related to science. Then do the following:
    - Make a list of at least two questions or ideas from what you read.
    - Discuss two of the questions or ideas with your counselor.
  - Do a combination of reading and watching (about one hour total) about anything related to science. Then do the following:
    - Make a list of at least two questions or ideas from what you read and watched.
    - Discuss two of the questions or ideas with your counselor.
- Complete ONE adventure from the following list. (Choose one that you have not already earned.) Discuss with your counselor what kind of science, technology, engineering, or math was used in the adventure.

**Wolf Cub Scout:** Adventures in Coins, Collections and Hobbies; Digging in the Past; Germs Alive!; Grow Something

**Bear Cub Scout:** A Bear Goes Fishing; Bear Picnic; Critter Care

**Webelos Scout:** Camper; Earth Rocks!; Maestro!
- Act like a scientist! Do EACH of the following:
  - With your counselor, choose a question you would like to investigate. Here are some examples only (you may get other ideas from your belt loop or pin activities):
    - Why do rockets have fins? Is there any connection between the feathers on arrows and fins on rockets?
    - Why do some cars have spoilers? How do spoilers work?
    - If there is a creek or stream in your neighborhood, where does it go? Does your stream flow to the Atlantic or the Pacific ocean?
    - Is the creek or stream in your neighborhood or park polluted?
    - What other activity can you think of that involves some kind of scientific questions or investigation?
  - With a parent or your counselor, use the scientific method/process to investigate your question. Keep records of your question, the information you found, how you investigated, and what you found out about your question.
- Discuss your investigation and findings with your counselor.
- Visit a place where science is being done, used, or explained, such as one of the following: zoo, aquarium, water treatment plant, observatory, science museum, weather station, fish hatchery, or any other location where science is being done, used, or explained.
  - During your visit, talk to someone in charge about science.
  - Discuss with your counselor the science done, used, or explained at the place you visited.
- Discuss with your counselor how science affects your everyday life.

## Science Everywhere Log

- Date Completed:** \_\_\_\_\_  
A, B or C -- Science Title(s): \_\_\_\_\_  
\_\_\_\_\_  
1. \_\_\_\_\_  
2. \_\_\_\_\_  
**Discuss your answers with your counselor.**
- Date Completed:** \_\_\_\_\_  
Which adventure did you complete? \_\_\_\_\_  
Discuss with your counselor what kind of science, technology, engineering, or math was used in the adventure.
- Act like a scientist! **Date Completed:** \_\_\_\_\_
  - Circle the question you investigated.
  - What did you discover? [Scientific Method]  
Problem or question: What are you trying to find out?  
\_\_\_\_\_  
Information: What do you already know about the problem?  
\_\_\_\_\_  
Hypothesis: What do you think is the answer to your question?  
\_\_\_\_\_  
Procedure or experimental setup: How will you find the answer to your question and test your hypothesis?  
\_\_\_\_\_  
Data and Analysis: What did you find out by doing your experiment?  
\_\_\_\_\_  
Conclusion: What did you find to be the answer to your question? If you did not find an answer, why not? How could you find out or expand on the answer(s) you discovered?  
\_\_\_\_\_
- Discuss your findings with your counselor.
- Date Completed:** \_\_\_\_\_  
What science place did you visit? \_\_\_\_\_
  - Who did you talk to about science? \_\_\_\_\_
  - What science was done at the place you visited?  
\_\_\_\_\_  
\_\_\_\_\_
- How does science affect your everyday life? **Date Completed:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Tech Talk

This module is designed to help you explore how science affects your life each day.

**PACK 200:** Circle your choices and fill in your *Tech Talk Log*.

- Choose A or B or C and complete ALL the requirements.
  - Watch an episode or episodes (about one hour total) of a show about anything related to technology. Then do the following:
    - Make a list of at least two questions or ideas from what you watched.
    - Discuss two of the questions or ideas with your counselor.
  - Read (about one hour total) about anything related to technology. Then do the following:
    - Make a list of at least two questions or ideas from what you read.
    - Discuss two of the questions or ideas with your counselor.
  - Do a combination of reading and watching (about one hour total) about anything related to technology. Then do the following:
    - Make a list of at least two questions or ideas from what you read and watched.
    - Discuss two of the questions or ideas with your counselor.
- Complete ONE adventure from the following list. (Choose one that you have not already earned.) Discuss with your counselor what kind of science, technology, engineering, or math was used in the adventure.

**Wolf Cub Scout:** Finding Your Way; Motor Away  
**Bear Cub Scout:** Make It Move; A World of Sound  
**Webelos Scout:** Build It; Fix It; Movie Making
- Explore EACH of the following with your counselor.
  - Look up a definition of the word *technology* and discuss the meaning with your counselor.
  - Find out how technology is used in EACH of the following fields:
    - Communication
    - Business
    - Construction
    - Sports
    - Entertainment
  - Discuss your findings with your counselor.
- Visit a place where technology is being designed, used, or explained, such as one of the following: an amusement park, a police or fire station, a radio or television station, a newspaper office, a factory or store, or any other location where technology is being designed, used, or explained.
  - During your visit, talk to someone in charge about the following:
    - The technologies used where you are visiting
    - Why the organization is using these technologies
  - Discuss with your counselor the technology that is designed, used, or explained at the place you visited.
- Discuss with your counselor how technology affects your everyday life.

## Tech Talk Log

- Date Completed:** \_\_\_\_\_  
A, B or C -- Technology Title(s): \_\_\_\_\_  
\_\_\_\_\_  
1. List questions or ideas:  
\_\_\_\_\_  
\_\_\_\_\_  
2. Discuss two of the questions or ideas with your counselor.
- Date Completed:** \_\_\_\_\_  
Which adventure did you complete? \_\_\_\_\_  
Discuss with your counselor what kind of science, technology, engineering, or math was used in the adventure.
- Date Completed:** \_\_\_\_\_
  - Define & discuss *Technology*:  
\_\_\_\_\_  
\_\_\_\_\_
  - How is technology used in EACH field:
    - Communication: \_\_\_\_\_
    - Business: \_\_\_\_\_
    - Construction: \_\_\_\_\_
    - Sports: \_\_\_\_\_
    - Entertainment: \_\_\_\_\_
  - Discuss your findings with your counselor.
- Date Completed:** \_\_\_\_\_  
What technology place did you visit? \_\_\_\_\_
  - Who did you talk to about technology?  
\_\_\_\_\_
    - What technologies were used?  
\_\_\_\_\_  
\_\_\_\_\_
    - Why does the organization use these technologies?  
\_\_\_\_\_  
\_\_\_\_\_
  - Discuss with your counselor the technology that is designed, used, or explained at the place you visited.
- Date Completed:** \_\_\_\_\_  
How does technology affect your everyday life?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Swing!

This module is designed to help you explore how engineering and simple machines called levers affects your life each day.

**PACK 200: Circle your choices and fill in your *Swing!* Log.**

- Choose A or B or C and complete ALL the requirements.
  - Watch an episode or episodes (about one hour total) of a show about anything related to motion or machines. Then do the following:
    - Make a list of at least two questions or ideas from what you watched.
    - Discuss two of the questions or ideas with your counselor.
  - Read (about one hour total) about anything related to motion or machines. Then do the following:
    - Make a list of at least two questions or ideas from what you read.
    - Discuss two of the questions or ideas with your counselor.
  - Do a combination of reading and watching (about one hour total) about anything related to motion or machines. Then do the following:
    - Make a list of at least two questions or ideas from what you read and watched.
    - Discuss two of the questions or ideas with your counselor.
- Complete ONE adventure from the following list. (Choose one that you have Not already earned.) Discuss with your counselor what kind of science, technology, engineering, or math was used in the adventure.

**Wolf Cub Scout:** Motor Away; Paws of Skill  
**Bear Cub Scout:** Baloo the Builder; A Bear Goes Fishing  
**Webelos Scout:** Adventure in Science; Engineer; Sportsman
- Explore EACH of the following:
  - Levers
    - Make a list or drawing of the three types of levers. (A lever is one kind of simple machine.)
    - Show:
      - How each lever works
      - How the lever in your design will move something
      - The class of each lever
      - Why we use levers
  - On your own, design, including a drawing, sketch, or model, ONE of the following:
    - A playground fixture that uses a lever
    - A game or sport that uses a lever
    - An invention that uses a lever
- Do the following:
  - Visit a place that uses levers, such as a playground, carpentry shop, construction site, restaurant kitchen, or any other location that uses levers.
  - Discuss with your counselor the equipment or tools that use levers in the place you visited.
- Discuss with your counselor how levers affect your everyday life.

## Swing! Log

- Date Completed:** \_\_\_\_\_  
A, B or C -- Motion or machines Title(s): \_\_\_\_\_  
\_\_\_\_\_  
1. Make a list of at least two questions or ideas from what you read and watched.  
\_\_\_\_\_  
\_\_\_\_\_  
2. Discuss two of the questions or ideas with your counselor.
- Date Completed:** \_\_\_\_\_  
Which adventure did you complete? \_\_\_\_\_  
Discuss with your counselor what kind of science, technology, engineering, or math was used in the adventure.
- Explore LEVERS -- Date Completed:** \_\_\_\_\_
  - Levers
    - Make a list of the three types of levers:  
1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_
    - Show:
      - How it works?
      - How it will move something?
      - It's class?
      - Why we use levers?
  - Draw, sketch, or model ONE of the following:
    - A playground fixture that uses a lever
    - A game or sport that uses a lever
    - An invention that uses a lever
- Date Completed:** \_\_\_\_\_
  - What *LEVERS* place did you visit? \_\_\_\_\_
  - Discuss with your counselor what equipment or tools that use levers were used?  
\_\_\_\_\_  
\_\_\_\_\_
- Date Completed:** \_\_\_\_\_  
How do *LEVERS* affect your everyday life?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### 1-2-3 Go!

This module is designed to help you explore how math affects your life each day.

**PACK 200: Circle your choices and fill in your 1-2-3 Go! Log.**

1. Choose A or B or C and complete ALL the requirements.
  - A. Watch an episode or episodes (about one hour total) of a show that involves math or physics. Then do the following:
    1. Make a list of at least two questions or ideas from what you watched.
    2. Discuss two of the questions or ideas with your counselor.
  - B. Read (about one hour total) about anything that involves math or physics. Then do the following:
    1. Make a list of at least two questions or ideas from what you read.
    2. Discuss two of the questions or ideas with your counselor.
  - C. Do a combination of reading and watching (about one hour total) about anything that involves math or physics. Then do the following:
    1. Make a list of at least two questions or ideas from what you read and watched.
    2. Discuss two of the questions or ideas with your counselor.
2. Complete ONE adventure from the following list. (Choose one that you have not already earned.) Discuss with your counselor what kind of science, technology, engineering, or math was used in the adventure.

**Wolf Cub Scout:** Code of the Wolf

**Bear Cub Scout:** Robotics

**Webelos Scout:** Game Design

3. Explore TWO options from A or B or C and complete ALL the requirements for those options. Keep your work to share with your counselor. The necessary information to make your calculations can be found in a book or on the Internet. (See the Helpful Links box for ideas.) You may work with a parent or your counselor on these calculations.
  - A. Choose TWO of the following places and calculate how much you would weigh there.
    1. On the sun or the moon
    2. On Jupiter or Pluto
    3. On a planet that you choose
  - B. Choose ONE of the following and calculate its height:
    1. A tree
    2. Your house
    3. A building of your choice
  - C. Calculate the volume of air in your bedroom. Make sure your measurements have the same units—all feet or all inches—and show your work.  
Volume = Length  $\times$  Width  $\times$  Height
4. Secret Codes
  - A. Look up, then discuss with your counselor each of the following:
    1. Cryptography
    2. At least three ways secret codes or ciphers are made
    3. How secret codes and ciphers relate to mathematics
  - B. Design a secret code or cipher. Then do the following:
    1. Write a message in your code or cipher.
    2. Share your code or cipher with your counselor.
5. Discuss with your counselor how math affects your everyday life.

### 1-2-3 Go! Log

1. **Date Completed:** \_\_\_\_\_  
A, B or C – Math or Physics Title(s): \_\_\_\_\_  
\_\_\_\_\_  
  1. Make a list of at least two questions or ideas from what you read and watched.  
\_\_\_\_\_  
\_\_\_\_\_
  2. Discuss two of the questions or ideas with your counselor.
2. **Date Completed:** \_\_\_\_\_  
Which adventure did you complete? \_\_\_\_\_
3. Choose TWO options from A, B or C – **Date Completed:** \_\_\_\_\_
  - A. Choose TWO of the following places and calculate how much you would weigh there.
    1. On the sun or the moon
    2. On Jupiter or Pluto
    3. On a planet that you choose
  - B. Choose ONE of the following and calculate its height:
    1. A tree
    2. Your house
    3. A building of your choice
  - C. Calculate the volume of air in your bedroom. Make sure your measurements have the same units—all feet or all inches—and show your work.  
Volume = Length  $\times$  Width  $\times$  Height
4. **Secret Codes**                      **Date Completed:** \_\_\_\_\_
  - A. Look up, then discuss with your counselor each of the following:
    1. Cryptography: \_\_\_\_\_  
\_\_\_\_\_
    2. At least three ways secret codes or ciphers are made:  
1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_
    3. How secret codes and ciphers relate to mathematics:  
\_\_\_\_\_  
\_\_\_\_\_
  - B. **Design a secret code or cipher.** Then do the following:
    1. Write a message in your code or cipher.  
\_\_\_\_\_
    2. Share your code or cipher with your counselor.
6. How does MATH affect your everyday life? **Date Completed:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## Dr. Louis Alvarez Supernova Award Wolf and Bear Cub Scouts

The Dr. Louis Alvarez Supernova Award can be earned by Wolf or Bear Cub Scouts active with a den. Tiger Cubs are not eligible to earn the Cub Scout Supernova award. With help from your parents and unit leader, select a council-approved mentor who is a registered Scouter. Your mentor may not be your parent or unit leader (unless the mentor is working with more than one youth).

### REQUIREMENTS

- Complete both of the adventures appropriate for your rank.  
**Wolf Cub Scout:** Air of the Wolf; Code of the Wolf  
**Bear Cub Scout:** Make It Move; Super Science
- Complete the following adventure appropriate for your rank.  
**Wolf Cub Scout:** Call of the Wild  
**Bear Cub Scout:** Forensics **OR** Marble Madness
- Find interesting facts about Dr. Luis W. Alvarez 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. Alvarez earn? What was his famous theory about dinosaurs?
- Find out about three other famous scientists, technology innovators, engineers, or mathematicians approved by your mentor. Discuss what you learned with your mentor.
- 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 Cub Scout Supernova award. Ask them why they think math and science are important in your education. Discuss what you learn with your mentor.
- Participate in a science project or experiment in your classroom or school **OR** do a special science project approved by your teacher. Discuss this activity with your mentor.
- Do **ONE** of the following:
  - Visit with someone who works in a STEM-related career. Discuss what you learned with your mentor.
  - Learn about a career that depends on knowledge about science, technology, engineering, or mathematics. Discuss what you learned with your mentor.
- Learn about the scientific method (or scientific process). Discuss this with your mentor, and include a simple demonstration to show what you learned.
- Participate in a Nova- or other STEM-related activity in your Cub 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.
- Submit an application for the Cub Scout Supernova award to the district Nova or advancement committee for approval.

## Dr. Louis Alvarez Supernova Award Wolf and Bear Cub Scouts Log

- Complete both of the adventures appropriate for your rank.  
\_\_\_\_\_ Date earned: \_\_\_\_\_  
\_\_\_\_\_ Date earned: \_\_\_\_\_
- Complete the following adventure appropriate for your rank.  
Wolf Cub Scout: Call of the Wild Date earned: \_\_\_\_\_  
Bear Cub Scout: Forensics **OR** Marble Madness Date earned: \_\_\_\_\_
- Find interesting facts about Dr. Luis W. Alvarez 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. Alvarez earn?  
\_\_\_\_\_  
\_\_\_\_\_  
What was his famous theory about dinosaurs?  
\_\_\_\_\_  
\_\_\_\_\_
- Find out about three other famous scientists, technology innovators, engineers, or mathematicians approved by your mentor. Discuss what you learned with your mentor.  
1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_
- 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 Cub Scout Supernova award. Ask them why they think math and science are important in your education. Discuss what you learn with your mentor.  
\_\_\_\_\_  
\_\_\_\_\_
- Participate in a science project or experiment in your classroom or school **OR** do a special science project approved by your teacher. Discuss this activity with your mentor.  
\_\_\_\_\_  
\_\_\_\_\_
- Do **ONE** of the following:
  - Visit with someone who works in a STEM-related career. Discuss what you learned with your mentor. Name: \_\_\_\_\_
  - Learn about a career that depends on knowledge about science, technology, engineering, or mathematics. Discuss what you learned with your mentor.  
\_\_\_\_\_
- Learn about the scientific method (or scientific process). Discuss this with your mentor, and include a simple demonstration to show what you learned.
- Participate in a Nova- or other STEM-related activity in your Cub 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.  
Location & Date of activity: \_\_\_\_\_
- Submit an application for the Cub Scout Supernova award to the district Nova or advancement committee for approval.



## Dr. Charles H. Townes Supernova Award Webelos Scouts

The Dr. Charles H. Townes Supernova Award can be earned by a Webelos Scout. With help from your parents and unit leader, select a council-approved mentor who is a registered Scouter. Your mentor may not be your parent or unit leader (unless the mentor is working with more than one youth). If you earned the Cub Scout Supernova award, you must repeat similar requirements while you are a Webelos Scout.

### REQUIREMENTS

- Complete the following Webelos adventures: Adventures in Science, Engineer, and Scouting Adventure.
- Complete **three** of the following adventures: Build It, Building a Better World, Castaway, First Responder, Into the Wild, and Into the Woods.
- 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 learned with your mentor, including answers to the following questions: What very important award did Dr. Townes earn? What was Dr. Townes' most famous invention?
- Find out about five other famous scientists, technology innovators, engineers, or mathematicians approved by your mentor. Discuss what you learned with your mentor.
- 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. Ask them why they think math and science are important in your education. Discuss what you learn with your mentor.
- Participate in a science project or experiment in your classroom or school. Discuss this activity with your mentor.
- Do **ONE** of the following:
  - Visit with someone who works in a STEM-related career. Discuss what you learned with your mentor.
  - Learn about a career that depends on knowledge about science, technology, engineering, or mathematics. Discuss what you learned with your mentor.
- Under the direct supervision of your mentor, do an experiment that shows how the scientific method (or scientific process) is used. Prepare a short report on the results of your experiment for your mentor.
- 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.
- Submit an [application for the Webelos Scout Supernova award](#) to the district Nova or advancement committee for approval.

## Dr. Charles H. Townes Supernova Award Webelos Scouts Log

- Complete the following Webelos adventures:  
 Adventures in Science      Date earned: \_\_\_\_\_  
 Engineer                      Date earned: \_\_\_\_\_  
 Scouting Adventure        Date earned: \_\_\_\_\_
- CIRCLE the THREE** Webelos adventures you completed: Build It, Building a Better World, Castaway, First Responder, Into the Wild, and Into the Woods.
- 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. Charles H. Townes earn?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 What was Dr. Charles H. Townes' most famous invention?  
 \_\_\_\_\_  
 \_\_\_\_\_
- Find out about five other famous scientists, technology innovators, engineers, or mathematicians approved by your mentor. Discuss what you learned with your mentor.  
 1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_  
 4. \_\_\_\_\_ 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. Ask them why they think math and science are important in your education. Discuss what you learn with your mentor. \_\_\_\_\_  
 \_\_\_\_\_
- Participate in a science project or experiment in your classroom or school. Discuss this activity with your mentor.  
 \_\_\_\_\_  
 \_\_\_\_\_
- Do **ONE** of the following:
  - Visit with someone who works in a STEM-related career. Discuss what you learned with your mentor. Name: \_\_\_\_\_
  - Learn about a career that depends on knowledge about science, technology, engineering, or mathematics. Discuss what you learned with your mentor.  
 \_\_\_\_\_  
 \_\_\_\_\_
- Under the direct supervision of your mentor, do an experiment that shows how the scientific method (or scientific process) is used. Prepare a short report on the results of your experiment for your mentor.
- 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.  
 Location & Date of activity: \_\_\_\_\_
- Submit an application for the Cub Scout Supernova award to the district Nova or advancement committee for approval.