



# Dr. Luis W. Alvarez



## Cub 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 2012 • This workbook was updated in November 2017.

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](mailto:Workbooks@USScouts.Org)

Send comments or suggestions for changes to the **requirements** for the **Nova Award** to: [Program.Content@Scouting.Org](mailto: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. Luis W. Alvarez Supernova Award.  
This Supernova award can be earned by Cub Scouts like you who want to soar in science.**

1. Complete the adventure appropriate for your rank and complete option A or option B.

Wolf Cub Scouts

Bear Cub Scouts

Code of the Wolf

Make It Move

Option A: Do all of the following:

a. Keep track of the money you earn and spend for three weeks.

b. Geometry: Select a simple shape or figure. Observe the world around you for at least a week and keep a record of where you see this shape or figure and how it is used.

c. Visit a bank and have someone explain how interest works. Use the current interest rate and calculate how much interest different sums of money will earn.

Option B: Do all of the following:

a. Measure how you use your time by keeping a diary or log of what you do for a week. Then make a chart or graph to display how you spend your time.

b. Measure, mix, and prepare at least two recipes. Share your snacks with family, friends, or your den.

c. Study geometry in architecture by exploring your neighborhood or community. Look at different types of buildings-houses, places of worship, businesses, etc.-and create a presentation (a set of photographs, a collage of pictures from newspapers and magazines, a model) that you can share with your den or pack to show what you have seen and learned about shapes in architecture.

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2. Complete the adventure appropriate for your rank or complete option A or option B.

Wolf Cub Scouts

Bear Cub Scouts

Call of the Wild

Forensics

Option A: Do all of the following:

- a. Go shopping with an adult and use a calculator to add up how much the items you buy will cost. See whether your total equals the total at check out.
- b. Explain the meaning of these statistical words and tools: data, averaging, tally marks, bar graph, line graph, pie chart, and percentage.
- c. Study a newspaper or online news source, with your parent's or guardian's permission, to find as many examples as you can of statistical information.

Option B: Do both of the following:

- a. Explain to your den or your Mentor how a meteorologist or insurance company (or someone else) might use the mathematics of probability to predict what might happen in the future (i.e., the chance that it might rain, or the chance that someone might be in a car accident).
- b. Predict the probability of a plastic bottle landing on its bottom, top, and side. Then flip it 100 times and keep track of which way it lands. Identify any possible sources of experimental error. Discuss the differences if the bottle is empty or full.

3. 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).

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

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What very important award did Dr. Alvarez earn?

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What was his famous theory about dinosaurs?

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

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Discuss what you learned with your mentor.

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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 Cub Scout Supernova award.

Person you spoke with: 

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

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Discuss what you learn with your mentor.

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- 6. Participate in a science project or experiment in your classroom or school OR do a special science project approved by your teacher.

Project you did:

Discuss this activity with your mentor.

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- 7. Do ONE of the following:
  - A. Visit with someone who works in a STEM-related career.

Person you visited:

Discuss what you learned with your mentor.

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- B. Learn about a career that depends on knowledge about science, technology, engineering, or mathematics.

Career:

Discuss what you learned with your mentor.

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- 8. Learn about the scientific method (or scientific process).

Discuss this with your mentor, and include a simple demonstration to show what you learned.

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What did you demonstrate?

- 9. 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.

Activity you participated in:  :  Date

- 10. Submit an [application for the Cub 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>.**