

**Dr. Luis W. Alvarez**

## Cub Scout Supernova Award Guide Sheets

Scout's Name: \_\_\_\_\_

Unit: \_\_\_\_\_

Supernova Mentor 's Name: \_\_\_\_\_

Supernova Mentor 's Phone No.: \_\_\_\_\_

These guide sheets can guide you through helping Scouts complete the Dr. Luis W. Alvarez Supernova Award. For full reference, please read <https://www.scouting.org/stem-nova-awards/awards/>.

You can download a copy of the *Guide to Advancement*. from <http://www.scouting.org/filestore/pdf/33088.pdf>. No one may add or subtract from the official requirements found in the Cub Scout Nova Awards Guidebook (Pub. 34032 – SKU 614935).

**Use of these guide sheets are not required, but they were created to help mentors organize and track the appropriate documentation that is required to be submitted to the STEM committee. Per the Supernova Award Application, the candidate states that *"I am submitting this application, with all required signatures and approvals, along with copies of my reports and other appropriate documentation, for consideration."***

You should use the spaces provided for each requirement to keep track of what has been completed, and to make notes for discussions with your Scout.

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

**It is recommended that you earn at least two of the Nova awards for Cub Scouts before earning the Dr. Luis W. Alvarez Supernova Award.**

Current Novas:

<b>Science</b>	<b>Technology</b>	<b>Engineering</b>	<b>Math</b>
Science Everywhere Down and Dirty Nova Wild Out of This World Uncovering the Past	Tech Talk Cub Scouts Can Code	Swing Up and Away	1-2-3 Go! Fearful Symmetry

1. **Complete** the adventure appropriate for your rank **AND complete** either option A or B.

- Wolf Cub Scouts: -- **Code of the Wolf**

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

*Copy of Advancement Report attached on page \_\_\_\_ below.*

- Bear Cub Scouts: -- **Make It Move**

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

*Copy of Advancement Report attached on page \_\_\_\_ below.*

--AND--

- **Option A -- Do all of the following:**

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

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

*Log of how money was earned and spent attached on page \_\_\_\_ below.*

- 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.

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Shape: \_\_\_\_\_

*Attached record log on page \_\_\_\_ below.*

- 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.

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Bank Visited: \_\_\_\_\_

Person Spoken To: \_\_\_\_\_

*Calculation Report attached on page \_\_\_\_ below.*

- **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.

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

*Log and data of time usage attached on page \_\_\_\_ below.*

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

Completion Date of first recipe: \_\_\_\_/\_\_\_\_/\_\_\_\_

Completion Date of second recipe: \_\_\_\_/\_\_\_\_/\_\_\_\_

Recipe Made: \_\_\_\_\_

Recipe Made: \_\_\_\_\_

*Photos of recipe making process attached on page \_\_\_\_ below.*

- 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.

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

*Copy of presentation attached on page \_\_\_\_ below.*

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

- Wolf Cub Scouts: -- **Call of the Wild**

Completion Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

*Attached copy of Advancement Report on page \_\_\_\_ below.*

- Bear Cub Scouts: -- **Forensics**

Completion Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

*Attached copy of Advancement Report on page \_\_\_\_ below.*

--OR--

- **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 calculated equals the total at check out.

Completion Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

*Pictures of trip and item list attached on page \_\_\_\_ below.*

- b. Explain the meaning of these statistical words and tools:

- data,
- averaging,
- tally marks,
- bar graph,
- line graph,
- pie chart, and
- percentage.

Completion Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

*Notes of words and definitions attached on page \_\_\_\_\_ below.*

- 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.

Completion Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

*Clippings or printouts attached on page \_\_\_\_\_ below.*

- **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).

Completion Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

*Written notes or report attached on page \_\_\_\_ below.*

- 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.

Completion Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

*Log file with predictions and outcomes attached on page \_\_\_\_ below.*

- 3. Find interesting facts about Dr. Luis W. Alvarez using resources in your school, 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 important award did Dr. Alvarez earn? What was his famous theory about dinosaurs?

Completion Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

I, as the Supernova Mentor, have talked to the applicant about Dr. Alvarez and they were able to tell me the award that Dr. Alvarez earned as well as his theory about dinosaurs.

Sign or Initial \_\_\_\_\_

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

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

Completion Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

I, as the Supernova Mentor, have talked to application about the (3) scientists, technologist, engineers or mathematicians and they have provided me relevant information about them.

Sign or Initial \_\_\_\_\_

- 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. Ask them why they think math and science are important in your education. Discuss this activity with your mentor.

Completion Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Person who was spoken to: \_\_\_\_\_

I, as the Supernova Mentor, have talked to the applicant about the person that they talked to and what they learned from their discussion.

Sign or Initial \_\_\_\_\_

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

Completion Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Science Experiment Done: \_\_\_\_\_

I, as the Supernova Mentor, have talked to the applicant about the person that they talked to and what they learned from their discussion.

Sign or Initial \_\_\_\_\_

*Pictures of science presentation board/setup and scout working on experiment are attached page \_\_\_\_ below.*

7. **Do ONE of the following:**

- A. Visit with someone who works in a STEM-related career.

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Person who was spoken to: \_\_\_\_\_

I, as the Supernova Mentor, have talked to the applicant about the person that they talked to and what they learned from their discussion.

Sign or Initial \_\_\_\_\_ *Photos of Meeting attached on page \_\_\_\_ below.*

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

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Career: \_\_\_\_\_

I, as the Supernova Mentor, have talked to the applicant about the person that they talked to and what they learned from their discussion.

Sign or Initial \_\_\_\_\_ 

Notes attached on page \_\_\_\_ below.

- 
8. Learn about the scientific method (or scientific process).
- Discuss**
- this with your mentor, and include a simple demonstration to show what you learned.

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

I, as the Supernova Mentor, have talked to the applicant about the person that they talked to and what they learned from their discussion.

Sign or Initial \_\_\_\_\_

 Written notes or report on what was learned on scientific methods and pictures of the demonstration done are attached on page \_\_\_\_ below.

- 
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, pack meeting, or event facilitated by your district or council.

Completion Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

 Written notes or pictures of the event attended are attached on page \_\_\_\_ below.

- 
10. Submit an application for the Cub Scout Supernova award to the to the Council STEM Committee with all supporting documentation including this completed guide. This application can be found at:

<https://filestore.scouting.org/filestore/STEM/pdf/SupernovaApplication.pdf>
**NOTES:**

For each requirement, checkbox

On the pages that follow please provide the supporting documents by uploading a photo or pdf to each page. As you update the documents, update the pages numbers above to correlate with the requirement.

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